

Translation

(1) **EU-Type Examination Certificate**

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



- (3) **Certificate Number** TÜV 19 ATEX 244294 X **issue:** 00
 (4) for the product: Isolating amplifier type IM35-**Ex-**i****/-**u****
 (5) of the manufacturer: Hans Turck GmbH & Co. KG
 (6) Address: Witzlebenstraße 7
 45472 Mülheim an der Ruhr
 Germany

Order number: 8003005563

Date of issue: 2019-05-13

- (7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.
 (8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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 the confidential ATEX Assessment Report No. 19 203 244294.

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

EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-7:2015

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 for 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 equipment. These are not covered by this certificate.
 (12) The marking of the product shall include the following:

 II (1) G [Ex ia Ga] IIC, II (1) D [Ex ia Da] IIIC
 II 3 (1) G Ex ec [ia Ga] IIC T4 Gc, II 3 G (1) D Ex ec [ia IIIC Da] IIC T4 Gc

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body


 Roder

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(13) SCHEDULE

(14) EU-Type Examination Certificate No. TÜV 19 ATEX 244294 X issue 00

(15) Description of product

The isolating amplifier type IM35-**Ex**-**i******/-**u****** is used for the safe galvanic separation of the intrinsically safe current/voltage outputs and the non intrinsically safe circuits.
The isolating amplifier is an associated electrical apparatus for installation outside of the explosion hazardous area (according to EN 60079-11) resp. an apparatus for use in Zone 2 explosion hazardous areas (according to EN 60079-7).
The isolating amplifier is executed with one or two channels.

The permissible ambient temperature range is -25°C ... +70°C.

Electrical data

Supply circuit U_n = 24 V d.c. (max. 35 V d.c.)
(Terminals 11 [+], 12 [-]) U_m = 253 V a.c. resp. 125 V d.c.

Input circuits U ≤ 15 V, 50 mA
(Terminals 8 [+], 9 [-] U_m = 253 V a.c. resp. 125 V d.c.
resp. 7 [+], 10 [-])

Output circuits in type of protection "Intrinsic Safety" Ex ia IIC/IIB/IIIC
(Terminals 1 [+], 2 [-]
resp. 4 [+], 5 [-])

IM35-**Ex**-**i******

Maximum values per circuit:

U_o = 15.9 V
 I_o = 60 mA
 R = 528 Ω
 P_o = 470 mW

Characteristic line: trapezoidal

Effective internal inductance: negligibly small

Effective internal capacitance: 5 nF

Ex ia	IIC		IIB	
max. permissible external inductance	5.0 mH	0.5 mH	10 mH	0.5 mH
max. permissible external capacitance	135 nF	330 nF	860 nF	2.2 μF

Schedule to EU-Type Examination Certificate No. TÜV 19 ATEX 244294 X issue 00

IM35-**Ex**u****

Maximum values per circuit:

$U_o = 15.9 \text{ V}$

$I_o = 54 \text{ mA}$

$R = 584 \text{ } \Omega$

$P_o = 420 \text{ mW}$

Characteristic line: trapezoidal

Effective internal inductance: negligibly small

Effective internal capacitance: 5 nF

Ex ia	IIC		IIB	
max. permissible external inductance	5.0 mH	0.5 mH	10 mH	0.5 mH
max. permissible external capacitance	145 nF	340 nF	900 nF	2.2 μF

The maximum values of the table are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.

The values of the table for IIB and for IIC are also permissible for explosive dust atmospheres.

The intrinsically safe control circuits are safely galvanically separated from all non intrinsically safe circuits up to a peak value of the voltage of 375 V.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 19 203 244294

(17) Specific Conditions for Use (only for zone 2 applications)

1. According to EN/IEC 60079-7:2015, section 4.10.1, the following is valid for this apparatus:

The apparatus has to be mounted in a housing tested according to EN/IEC 60079-0, that meets the requirements of degree of protection IP54.

The apparatus may be installed in an area of not more than pollution degree 2.

2. The connecting and disconnecting of energized non intrinsically safe circuits is only permitted, if no explosion hazardous atmosphere is available.

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -