

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 17 ATEX 195767 X **issue:** 00
(4) for the product: Isolating amplifier type IMC-DI-**Ex-*N*/24VDC/**
(5) of the manufacturer: Hans Turck GmbH & Co. KG
(6) Address: Witzlebenstraße 7
45472 Mülheim
Germany

Order number: 8000469411
Date of issue: 2017-03-27

- (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. 17 203 195767.

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

EN 60079-0:2012 + A11:2013 EN 60079-7:2015 EN 60079-11:2012
EN 60079-31:2014

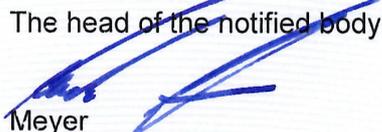
except in respect of those requirements listed at item 18 of the schedule.

- (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/IIB
II (1) D [Ex ia Da] IIIC/IIIB
 **II 3 (1) G Ex ec [ia Ga] IIC/IIB T4 Gc**
II 3 (1) D Ex tc [ia Da] IIIB T96 °C Dc

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



Meyer

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(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 17 ATEX 195767 X issue 00**

(15) **Description of product**

The isolating amplifier type IMC-DI-****Ex-N*/24VDC/***** is used for transmission of binary signals from the explosive hazardous area into the safe area as well as for the safe galvanic separation of the intrinsically safe circuits from the non-intrinsically safe circuits.

The isolating amplifier is executed with two channels.

The intrinsically safe input circuits are safely galvanically separated from the non-intrinsically safe circuits up to the peak crest value of the voltage of 375 V.

Type code:

IMC-DI-****Ex-N*/24VDC/*****

Electrical data:

Supply circuit

(Connections X2;

pins 1[+], 3[-])

only for the connection to a non-intrinsically safe circuit with following maximum values:

$U_N = 24 \text{ V DC (max. 30 V DC), P ca. 1.5 W}$

$U_m = 253 \text{ V AC resp. 125 V DC}$

Output circuits

(Connections X2;

type IMC-DI-****Ex-PN*/24VDC/*****;

Pins 1[+], 2[-] resp. 1[+], 4[-]

type IMC-DI-****Ex-NN*/24VDC/*****;

Pins 2[+], 3[-] resp. 4[+], 3[-])

only for the connection to a non-intrinsically safe circuit with following maximum values:

$U_N = 24 \text{ V DC (max. 30 V DC), P ca. 3 W}$

$U_m = 253 \text{ V AC resp. 125 V DC}$

Input circuits

(Connections X1;

type IMC-DI-****Ex-N*/24VDC/*****;

Bushings 1[+], 4[-] resp. 2[+], 3[-]

type IMC-DI-****Ex-N*/24VDC/K62**;

Bushings 1[+], 4[-] resp. 1[+], 2[-])

in type of protection Intrinsic Safety Ex ia IIC/IIB/IIIC with following maximum value per circuit:

$U_o = 9.6 \text{ V}$

$I_o = 10 \text{ mA}$

$P_o = 24 \text{ mW}$

Characteristic line: linear

The effective internal capacitances are negligibly small.

The effective internal inductance: 0.15 mH

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ia IIC	L_o	100 mH	50 mH	20 mH	10 mH	5 mH	2 mH
	C_o	0.51 μF	0.58 μF	0.67 μF	0.75 μF	0.84 μF	0.99 μF
Ex ia IIB / IIIB / IIIC	L_o	100 mH	50 mH	20 mH	10 mH	5 mH	2 mH
	C_o	2.7 μF	3 μF	3.4 μF	3.8 μF	4.4 μF	5.3 μF

Schedule to EU-Type Examination Certificate No. TÜV 17 ATEX 195767 X issue 00

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

Thermal data:

Ambient temperature range: $-25\text{ °C} \leq T_a \leq +70\text{ °C}$

- (16) Drawings and documents are listed in the ATEX Assessment Report No. 17 203 195767
- (17) Specific Conditions for Use
1. For applications that require devices of EPL Gc and EPL Dc: The connecting and disconnecting of energised non energy limited circuits is not permitted (see warning label).
 2. For applications that require devices of EPL Gc and EPL Dc: The protective housing has to be safely screwed to a solid basement with the provided screws resp. with screws according to the manufacturer's manual.
 3. For applications that require devices of EPL Dc: The value for the surface temperature was measured without dust layer.
 4. For applications that require devices of EPL Dc: The dust is only allowed to be non conductive.
 5. For use in places with an explosive dust atmosphere, the isolating amplifier type IMC-DI-****Ex-N*/24VDC/***** has to be protected from electrostatic charging.
- (18) Essential Health and Safety Requirements
No additional ones

- End of Certificate -