

Translation

(1) EC-TYPE EXAMINATION CERTIFICATE



(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC

(3) EC-Type Examination Certificate Number

TÜV 04 ATEX 2679

(4) **Equipment:** Analogue Data Transmitter type IM31-**Ex-*

(5) **Manufacturer:** Hans Turck GmbH & CO KG

(6) **Address:** Witzlebenstraße 7
D-45472 Mülheim

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system 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 atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 05YEX551626.

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

EN 50 014:1997 + A1 + A2 EN 50 020:2002

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. 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 equipment or protective system must include the following:

II (1) G D [EEx ia] IIC

TÜV NORD CERT GmbH & Co. KG
Am TÜV 1
30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

J. K. K. K.
Head of the
Certification Body

Hannover, 2005-01-25

(13)

SCHEDULE

(14) EC-TYPE EXAMINATION CERTIFICATE N° TÜV 04 ATEX 2679

(15) Description of equipment or protective system

The Analogue Data Transmitter type IM31-**Ex-* is used for the transmission of normalised analogue signals from the explosion hazardous area into the non explosion hazardous area as well as for the safe galvanic separation of the intrinsically safe circuits and the non intrinsically safe circuits.

The device is executed with max. 2 channels.

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

Electrical Data

Supply circuit U = 20 ... 250 V a. c./20 ... 125 V d. c., P ≤ 2,2 W
(Connections 11 and 12) U_m = 250 V a. c. resp. 125 V d. c.

Input circuits in type of protection Intrinsic Safety EEx ia IIC/IIB
(Connections 1, 2, 3 and 4, 5, 6) Maximum values per channel:
U_o = 7.2 V
I_o = 1 mA
P_o = 2 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
effective internal inductance: 480 µH

	EEx ia		IIC		IIB	
max. permissible external inductance	0,5 mH	4,5 mH	9,5 mH	1,5 mH	9,5 mH	20 mH
max. permissible external capacitance	2 µF	1,5 µF	1,3 µF	9 µF	6,7 µF	6,1 µF

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

The connection to intrinsically safe circuits with the following maximum values is permissible:

IM31-22Ex-i, IM31-22Ex-U (with 2 channels)

U_i = 20 V
P_i = 650 mW
bzw.

IM31-1*Ex-i, IM31-1*Ex-U (with 1 channel)

U_i = 40 V
P_i = 650 mW

The rules for the interconnection of intrinsically safe circuits has to be observed.

Output circuits Electrical data per circuit:
 (Connections 8, 9 and 7, 10) $U \leq 10 \text{ V}$, $I \leq 20 \text{ mA}$
 $U_m = 250 \text{ V}$

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.
 The intrinsically safe input circuits are safely galvanically separated up to a sum of the voltages of the intrinsically safe circuits of 60 V.

(16) The test documents are listed in the test report no. 05YEX551626.

(17) Special conditions for safe use
 none

(18) Essential Health and Safety Requirements
 no additional ones

Translation
1. SUPPLEMENT

to Certificate No. **TÜV 04 ATEX 2679**
 Equipment: Analogue data transmitter type IM31-**Ex-
 Manufacturer: Hans Turck GmbH & Co. KG
 Address: Witzlebenstraße 7
 45472 Mülheim an der Ruhr, Germany
 Order number: 8000555876
 Date of issue: 2010-06-29

In the future, the analogue data transmitter type IM31-**Ex-* is manufactured according to the documents listed in the test report.

The changes refer to the internal construction, the electrical data and the marking.

This reads as follows:

II (1) G [Ex ia Ga] IIC/IIB and II (1) D [Ex ia Da] IIIC

Electrical data

Input circuits in type of protection Intrinsic Safety
 (Connections Ex ia IIC/IIB resp. Ex ia IIIC
 1, 2, 3 and 4, 5, 6) Maximum values per channel:
 $U_o = 7.2 \text{ V}$
 $I_o = 1 \text{ mA}$
 $P_o = 2 \text{ mW}$
 Characteristic line: linear
 effective internal capacitance: 52 nF
 effective internal inductance: 495 μH

Ex ia	IIC			IIB		
max. permissible external inductance	0.5 mH	4.5 mH	9.5 mH	1.5 mH	9.5 mH	20 mH
max. permissible external capacitance	2 μF	1.5 μF	1.3 μF	9 μF	6.7 μF	6.1 μF

The values for IIB and for IIC are also permissible for explosive dust atmospheres. The maximum values of the table are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.

All other data apply unchanged for this supplement.

The equipment according to this supplement meets the requirements of these standards:

EN 60 079-0:2009 EN 60 079-11:2007 IEC 61241-11: 2006

1. Supplement to Certificate No. TÜV 04 ATEX 2679 X

(16) The test documents are listed in the test report No. 10 203 555876.

(17) Special conditions for safe use

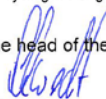
none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited 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 certification body



Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Wir/We **HANS TURCK GMBH & CO KG**
WITZLEBENSTR. 7, D – 45472 MÜLHEIM A.D. RUHR

erklären in alleiniger Verantwortung, dass die Produkte
 declare under our sole responsibility that the products

Analog Signaltrenner Typ IM31-Ex-***

auf die sich die Erklärung bezieht, den Anforderungen der folgenden EU-Richtlinien durch Einhaltung der folgenden Normen genügen:
 to which this declaration relates are in conformity with the requirements of the following EU-directives by compliance with the following standards:

EMV – Richtlinie / EMC Directive **2014 / 30 / EU** 26. Feb. 2014
 EN 61326-1:2013

Niederspannungsrichtlinie/ Low Voltage Directive **2014 / 35 / EU** 26. Feb. 2014
 (für die Geräte mit Versorgungsspannung / for equipment with supply voltage : >50V AC bzw. >75V DC)
 EN 61010-1:2010

Richtlinie / Directive ATEX **2014 / 34 / EU** 26. Feb. 2014
 EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010

Weitere Normen, Bemerkungen
 additional standards, remarks

Das Produkt stimmt mit den Anforderungen der Richtlinie 2014 / 34 / EU überein. Eine oder mehrere in der zugehörigen EG-Baumusterprüfbescheinigung genannten Normen wurden bereits durch neue Ausgaben ersetzt. Der Hersteller erklärt für das Produkt auch die Übereinstimmung mit den neuen Normenausgaben, da die veränderten Anforderungen der neuen Normenausgaben für dieses Produkt nicht relevant sind.

The product complies with the directive 2014 / 34 / EU. One or more norms mentioned in the respective EC type examination certificate were already replaced by new ones. The manufacturer declares that the product complies with the new valid norms, as the changed requirements mentioned there are not relevant for the product.

Die Niederspannungsrichtlinie ist nicht anwendbar bei Betrieb des Produktes im explosionsgefährdeten Bereich. In diesem Fall sind alle grundlegenden Zielsetzungen im Hinblick auf die Niederspannung von der Richtlinie 2014 / 34 / EU Anhang II Punkt 1.2.7 abgedeckt

The low voltage directive is not applicable when the product is installed in the hazardous area. In this case all Low Voltage essential objectives are covered by the Directive 2014 / 34 / EU Annex II 1.2.7.

Zusätzliche Informationen:

Supplementary information:

Angewandtes ATEX-Konformitätsbewertungsverfahren / ATEX - conformity assessment procedure applied:
 Modul B + Modul D / E / module B + module D / E

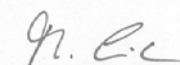
EU-Baumusterprüfbescheinigung (Modul B) TÜV 04 ATEX 2679, TÜV 06 ATEX 553387 X /
 EC-type examination certificate (module B)

ausgestellt von / issued by: TÜV NORD CERT GmbH, Kenn-Nr. / number 0044
 Langemarckstraße 20, 45141 Essen

Zertifizierung des QS-Systems gemäß Modul D durch:
 certification of the QS-system in accordance with module D by:

Physikalisch Technische Bundesanstalt, Kenn-Nr. / number 0102,
 Bundesallee 100, D-38116 Braunschweig

Mülheim, den 20.04.2016



i.V. Dr. M. Linde, Leiter Zulassungen / Manager Approvals

Ort und Datum der Ausstellung /
 Place and date of issue

Name, Funktion und Unterschrift des Belegten /
 Name, function and signature of authorized person