

TUV NORD



Translation

(1) **Statement of Conformity**

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

(3) **Statement of Conformity Number: TÜV 06 ATEX 553387 X**

(4) for the equipment: **Analogue Data Transmitter type IM31-**Ex-***

(5) of the manufacturer: **Hans Turck GmbH & Co. KG**

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

Order number: **8000553387**

Date of issue: **2006-10-05**

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this statement of conformity and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH 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 No. 06 YEX 553387.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2004 EN 60079-15:2005

- (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 statement of conformity 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:

Ex II 3 G Ex nA [nL] IIC/IIB T4

TÜV NORD CERT GmbH, Langemarkstraße 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, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

(13) **SCHEDULE**

(14) **Statement of Conformity No. TÜV 06 ATEX 553387 X**

(15) Description of equipment

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 transmitter is an associated electrical apparatus for installation outside of the explosion hazardous area (according EN 50020) resp. an apparatus for use in Zone 2 explosion hazardous areas (according EN 60079-15).

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

Electrical data

Supply circuits (Terminals 11 and 12) **U = 20 ... 250 V a.c. resp. 20 ... 125 V d.c., P ≤ 2,2 W**

Input circuits (Terminals 1, 2, 3 and 4, 5, 6)) **energy limited circuits Ex nL IIC/IIB**

Maximum values per channel:

U₀ = 7.2 V

I₀ = 1 mA

P₀ = 2 mW

Characteristic line: linear

The effective internal capacitance is negligibly small.

Effective internal inductance: 480 µH

Ex nL	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	3.9 µF	2.5 µF	2.2 µF	17 µF	12 µF	10 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 energy limited 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

resp.

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 energy limited circuits have to be observed.

Output circuits (Terminals 8, 9 and 7, 10)

electrical data per circuit:

U ≤ 10 V, I ≤ 20 mA

U_m = 250 V

This statement of conformity may only be reproduced without any change, schedule included. Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH

Schedule Statement of Conformity No. TÜV 06 ATEX 553387 X

The energy limited input circuits are safely separated from the non energy limited circuits up to a crest value of the voltage of 375 V.
 The energy limited input circuits are safely galvanic separated up to sum of the voltage of 60 V.

(16) Test documents are listed in the test report No. 06 YEX 553387.

(17) Special conditions for safe use

- The Analogue Data Transmitter type IM31-**Ex-* has to be installed in a suitable housing according to EN 60079-15 in such a way, that a degree of protection of at least IP 54 according to EN 60529 is reached.
- Using the switches on the front side as well as the connecting and disconnecting of energised non energy limited circuits is only permitted if no explosion hazardous atmosphere exists.
- For the supply circuit arrangements have to be taken externally, that the rated voltage is exceeded not more than 40% by transient disturbances.

(18) Essential Health and Safety Requirements

no additional ones

Translation
1. SUPPLEMENT

to Certificate No.	TÜV 06 ATEX 553387 X
Equipment:	Analogue data transmitter type IM31-**Ex-*
Manufacturer:	Hans Turck GmbH & Co. KG
Address:	Witzlebenstraße 7 45472 Mülheim an der Ruhr, Germany
Order number:	8000555877
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 3 G Ex nA [ic Gc] IIC/IIB T4 Gc

Electrical data

Input circuits in type of protection Intrinsic Safety
 (Connections Ex ic IIC/IIB
 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 ic	IIC			IIB		
	max. permissible external inductance	max. permissible external capacitance	max. permissible external inductance	max. permissible external capacitance	max. permissible external inductance	max. permissible external capacitance
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	3.9 µF	2.5 µF	2.2 µF	17 µF	12 µF	10 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.

All other data and the "Special conditions for safe use" apply unchanged for this supplement.

The equipment meets the requirements of these standards:
 EN 60 079-0:2009 EN 60 079-11:2007 EN 60 079-15:2005

1. Supplement to Certificate No. TÜV 06 ATEX 553387 X

(16) The test documents are listed in the test report No. 10 204 555877.

(17) Special conditions for safe use

1. The Analogue Data Transmitter type IM31-**Ex-* has to be installed in a suitable housing according to EN 60079-15 in such a way, that a degree of protection of at least IP 54 according to EN 60529 is reached.
2. Using the switches on the front side as well as the connecting and disconnecting of energised non energy limited circuits is only permitted if no explosion hazardous atmosphere exists.
3. For the supply circuit arrangements have to be taken externally, that the rated voltage is exceeded not more than 40% by transient disturbances.

(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 Begluten /
Name, function and signature of authorized person