

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

Head of the
 Certification Body



Hannover, 2005-01-25

Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
 Auszüge oder Änderungen bedürfen der Genehmigung der TÜV NORD CERT GmbH & Co. KG

(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.

BA 02 11 04 500/000

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



Konformitätserklärung Nr. 3169 M
Declaration of Conformity

Diese Konformitätserklärung entspricht der Europäischen Norm EN 45014 "Allgemeine Kriterien für Konformitätserklärungen von Anbietern". Die Grundlage der Kriterien sind internationale Dokumente, insbesondere ISO/IEC Leitfadens 22, 1982: "Information on manufacturer's declaration of conformity with standards or other technical specifications".

This "Declaration of Conformity" complies with the European Standard EN 45014 "General criteria for a supplier's declaration of conformity". These criteria are based on the relevant international documentation, particularly the ISO/IEC Guide 22, 1982: "Information on the manufacturer's declaration of conformity with standards or other technical specifications".

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 IM 31 - ** Ex - *

auf die sich die Erklärung bezieht, mit den folgenden Normen übereinstimmen
 to which this declaration relates are in conformity with the following standards

EN 61326 / 1998; A1 / 1999

und wo anwendbar
 and where applicable

EN 50014 + A1 +A2 / 1997 EN 50020 / 2002

Gemäß den Bestimmungen der Richtlinie (falls zutreffend)
 Following the provisions of Directive (if applicable)

EMV - Richtlinie	/ EMC Directive	89 / 336 / EWG	3. Mai 1989
Richtlinie ATEX 100a	/ Directive ATEX 100a	94 / 9 / EG	23. März 1994
Niederspannungsrichtlinie	/ Low Voltage Directive	73 / 23 / EWG	19. Februar 1973

Weitere Normen
 additional standards

Aussteller der EG-Baumusterbescheinigung:
 TÜV Nord Cert GmbH Co KG , TÜV-CERT-Zertifizierungsstelle
 Am TÜV 1, D-30519 Hannover
 Kenn-Nr. 0032, Registriernummer: TÜV 04 ATEX 2679

Mülheim, den 08.04.05



(i.V. W. Stoll)

Ort und Datum der Ausstellung /
 Place and date of issue

Name und Unterschrift des Befugten /
 Name and signature of authorized person