Translation

(1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or Protective System intended for use in potentially explosive atmospheres - **Directive 94/9/EC**

(3) EC-Type Examination Certificate Number

TÜV 04 ATEX 2553

(4) Equipment: Isolating Switch Amplifier type IM1*-***-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 is specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH & Co. KG, TÜV Certification Body N° 0032 in accordance with Article 9 of the Council Directive 94/9/EC of March 23, 1994, 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 confidential report N° 04YEX551361.

(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 certification 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
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
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Head of the Certification Body

Hanover, 2004-07-06

TÜV NORD CERT

(13) **SCHEDULE**

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 04 ATEX 2553**

(15) Description of equipment or protective system

The isolating switch amplifier type IM1*-***-Ex** is used for the transmission of binary 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., P ≤ 0.5 W
(Terminals 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
(Terminals 2, 5 and 1, 4) Maximum values per channel:
U_o = 9.6 V
I_o = 11 mA
P_o = 26 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
Effective internal inductance: 65 µH

EEx ia	IIC			IIB		
max. permissible external inductance	1 mH	5 mH	10 mH	2 mH	10 mH	20 mH
max. permissible external capacitance	1,1 µF	0,83 µF	0,74 µF	5,2 µF	3,8 µF	3,4 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.

Type IM1*-* Ex-T**

Output circuits ..... Electrical data of each transistor output:
(Terminals 8, 9 and 7, 10) U ≤ 30 V d. c., I ≤ 200 mA, P ≤ 6 W
U_m = 250 V

Type IM1*-* Ex-R**

Output circuits ..... Electrical data of each relay output:
(Terminals 8, 9 and 7, 10) U = 250 V a. c., I = 2 A, S = 500 VA, P = 100 W
U = 125 V d. c., I = 0.5 A resp.
U = 30 V d. c., I = 6 A

Type IM1*-* Ex-MT**

Output circuits ..... Electrical data of each photorelais output:
(Terminals 8, 9 and 7, 10) U ≤ 250 V a. c., I ≤ 100 mA, P ≤ 30 W
U_m = 250 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 galvanically connected with each other.

(16) The test documents are listed in the test report no. 04YEX551361.

(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 2553**
Equipment:	Isolating Switch Amplifier type IM1*-***-Ex**
Manufacturer:	Hans Turck GmbH & Co. KG
Address:	Witzlebenstraße 7 D-45472 Mülheim
Order number:	8000553133
Date of issue:	2006-06-08

Amendments:

In the future, the Isolating Switch Amplifier type IM1*-***-Ex** may also be manufactured and operated according to the documents listed in the test report.

The amendments concern the internal construction. A changed printed circuit board with the identifier 2487/2 is used.

The declaration of some of the electrical data is changed and is in the future:

Supply circuit (Terminals 11 and 12)	U = 20 ... 250 V a.c. resp. 20 ... 125 V d.c., P ≤ 3 W U_m= 250 V a.c. resp. 125 V d.c.

Type IM1*-*-Ex-R**

Output circuits (Terminals 8, 9 and 7, 10)	Electrical data of each Relay-Output: U = 250 V a.c. , I = 2 A , S = 500 VA , P = 60 W U = 125 V d.c. , I = 0,5 A resp. U = 30 V d.c. , I = 2 A

The remaining electrical data and all other data apply unchanged for this supplement.

The equipment incl. of this supplement meets the requirements of these standards:

EN 50014:1997+A1+A2 **EN 50020:2002**

(16) The test documents are listed in the test report No. 06 YEX 553133.

(17) Special conditions for safe use

no additional ones

(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

Konformitätserklärung Nr. 3150 M

Declaration of Conformity

TURCK
Industrielle Automation

Diese Konformitätserklärung entspricht der Europäischen Norm EN 45014 "Allgemeine Kriterien für Konformitätserklärungen von Anbietern". Die Grundlage der Kriterien sind internationale Dokumente, insbesondere ISO/IEC Leitfaden 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

Trennschaltverstärker Typ IM1*-***-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

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
Am TÜV 1, D-30519 Hannover
Kenn-Nr. 0032, Registriernummer: TÜV 04 ATEX 2553

Mülheim, den 30.06.04

i.V. W. Stoll

(i.V. W. Stoll)

Ort und Datum der Austellung / Place and date of issue

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

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Stand: 001 vom 26.05.03