

Translation

TUV NORD



(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 552968 X**

(4) for the equipment: Isolating Switch Amplifier type IM1*-***-Ex**

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

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

Order number: 8000552968

Date of issue: 2006-09-18

- (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 552968.
- (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:

 **II 3 G Ex nA nC [nL] IIC/IIB T4** resp. **II 3 G Ex nA [nL] IIC/IIB T4**

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

Branch office Hannover, Am TÜV 1, 30519 Hannover, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

(13) **SCHEDULE**

(14) **Statement of Conformity No. TÜV 06 ATEX 552968 X**

(15) Description of equipment

The isolating switch amplifier type IM1*-***-Ex** is an associated electrical apparatus for installation outside of the explosion hazardous area resp. an apparatus for use in Zone 2 explosion hazardous areas. It 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 resp. energy limited circuits and the non intrinsically safe resp. non energy limited circuits.

Permitted range of the ambient temperature	-25 °C to +70 °C
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Electrical Data

Supply circuit
(Terminals 11 and 12) $U = 20 \dots 250 \text{ V a.c. resp. } 20 \dots 125 \text{ V d.c., } P \leq 3 \text{ W}$

Input circuits
(Terminals 2, 5 and 1, 4) energy limited circuits Ex nL IIC/IIB
Maximum values per channel:
 $U_o = 9,6 \text{ V}$
 $I_o = 11 \text{ mA}$
 $P_o = 26 \text{ mW}$
Characteristic line: linear
The effective internal capacitance is negligibly small.
Effective internal inductance: 65 μH

Ex nL	IIC			IIB		
max. permissible external inductance	1 mH	5 mH	10 mH	1 mH	5 mH	10 mH
max. permissible external capacitance	1,9 μF	1,4 μF	1,2 μF	11 μF	7,5 μF	6,6 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
(Terminals 8, 9, and 7, 10) Electrical data of each transistor output:
 $U \leq 30 \text{ V d.c.}, I \leq 200 \text{ mA}, P \leq 6 \text{ W}$

Type IM1*-*-Ex-R**

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

Schedule Statement of Conformity No. TÜV 06 ATEX 552968 X

Type IM1*-*-Ex-MT**

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

Electrical data of each photorelays output:
 $U \leq 250 \text{ V a.c.}$, $I = 100 \text{ mA}$, $P \leq 30 \text{ W}$

The energy limited circuits are safely galvanically separated from the non energy limited circuits up to a peak crest value of the voltage of 375 V.

The energy limited circuits are galvanically connected with each other.

The marking for the type IM1*-***-Ex-R is:

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

The marking for the types IM1*-***-Ex-T and IM1*-***-Ex-MT is:

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

(16) Test documents are listed in the test report No. 06 YEX 552968.

(17) Special conditions for safe use

- The isolating switch amplifier type IM1*-***-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.
- The operation of the front switches as well as the connecting and disconnecting of energised non energy limited circuits is only permitted during installation, for maintenance or for repair purposes.

Note: The temporal coincidence of explosion hazardous atmosphere and installation, maintenance resp. repair purposes is assessed as unlikely in zone 2.

- 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 552968 X
Equipment:	Isolating switch amplifier type IM1*-***-Ex**
Manufacturer:	Hans Turck GmbH & Co. KG
Address:	Witzlebenstraße 7 45472 Mülheim an der Ruhr, Germany
Order number:	8000393434
Date of issue:	07.06.2011

In future, the isolating switch amplifier type IM1*-***-Ex** is manufactured according to the documents listed in the test report.

The changes refer to the internal construction, the electrical data, the special conditions for safe use and the marking.

This reads as follows:

II 3 G Ex nA [ic Gc] IIC T4 Gc resp. II 3 G Ex nA nC [ic Gc] IIC T4 Gc

Electrical Data

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

Input circuits in type of protection Intrinsic Safety Ex ic IIC
(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

For applications with marking Ex nA [ic Gc] IIC T4 Gc resp. Ex nA nC [ic Gc] IIC T4 Gc:

Ex ic	IIC			IIB		
Max. permissible external inductance	1 mH	5 mH	10 mH	1 mH	5 mH	10 mH
Max. permissible external capacitance	1.9 µF	1.4 µF	1.2 µF	11 µF	7.5 µF	6.6 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 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 EN 60079-15:2010

1. Supplement to Certificate No. TÜV 06 ATEX 552968 X

(16) The test documents are listed in the test report No. 11 214 079628.

(17) Special conditions for safe use

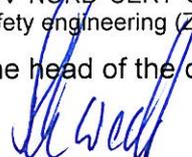
- The isolating switch amplifier type IM1*^{***}-Ex** has to be installed in a suitable housing according to IEC 60079-15 in such a way, that a degree of protection of at least IP 54 according to IEC 60529 is reached.
- Using the switches on the front side as well as the connecting and disconnecting of energized non intrinsically safe 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

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

A handwritten signature in blue ink, appearing to read "Schwedt".

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

Trennschaltverstärker Typ IM1*-*-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 EN 61326-1:2013	2014 / 30 / EU	26. Feb. 2014
Niederspannungsrichtlinie/ Low Voltage Directive (für die Geräte mit Versorgungsspannung / for equipment with supply voltage : EN 61010-1:2010	2014 / 35 / EU	26. Feb. 2014 >50V AC bzw. >75V DC)
Richtlinie / Directive ATEX EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010	2014 / 34 / EU	26. Feb. 2014

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 2553, TÜV 06 ATEX 552968 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 Befugten /
Name, function and signature of authorized person