



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX TUN 05.0011X** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-08-26** Page 1 of 4

Applicant: **Hans Turck GmbH & CO KG**
Witzlebenstraße 7
D-45472 Mülheim
Germany

Electrical Apparatus: **Solenoid Driver type IM72-**Ex/L**
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **[Ex ia] IIC**

Approved for issue on behalf of the IECEx
Certification Body:

Herbert Stürwold

Position:

Head of IECExCB

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TÜV NORD CERT GmbH & Co.

KG
Am TÜV1
D-30519 Hannover
Germany



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Page 2 of 4

Manufacturer: **Hans Turck GmbH & CO KG**
Witzlebenstraße 7
D-45472 Mülheim
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

IECEX ATR:
DE/TUN/05/552129

File Reference:
05YEX552129



IECEx Certificate of Conformity

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 Page **3** of **4**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The Solenoid Driver type IM72-**Ex/L is used for the supply of passive two-poles (e. g. solenoid valves, signal lamps and four wire transmitters) as well as for the safe galvanic separation of the intrinsically safe circuits and the non intrinsically safe circuits.
 The device is executed with 1 or 2 channels.

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

Electrical Data

Input circuits
 (Connections channel 1: 11[+], 12[-]
 Connections channel 2: 8[+], 9[-])
 $U = 24 \text{ V d. c. (max. 30 V d. c.)}$, $P \text{ ca. } 3 \text{ W}$
 $U_m = 250 \text{ V a. c. resp. } 125 \text{ V d. c.}$

CONDITIONS OF CERTIFICATION: YES as shown below:

Only one intrinsically safe circuit is allowed to be connected to the connections of the same channel; the connection of 2 intrinsically safe circuits with the belonging max. values of C_o and L_o is not permissible.

The permissible max. values have to be taken from the aforementioned tables.



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 Page **4** of **4**

Additional information:

Output circuits (Connections channel 1: 1[+] and 3[-])
 Connections channel 2: 4[+] and 6[-])
 in type of protection Intrinsic Safety Ex ia IIC/IIB
 Maximum values per channel:
 $U_o = 27 \text{ V}$
 $I_o = 96 \text{ mA}$
 $P_o = 678 \text{ mW}$
 $R = 295 \text{ } \Omega$
 Characteristic line: trapezoidal
 The effective internal capacitances and inductances are negligibly small.

Ex ia	IIC		IIB	
max. permissible external inductance	0.68 mH	0.5 mH	13 mH	2 mH
max. permissible external capacitance	62 nF	70 nF	260 nF	300 nF

Output circuits (Connections channel 1: 2[+] and 3[-])
 Connections channel 2: 5[+] and 6[-])
 in type of protection Intrinsic Safety Ex ia IIC/IIB
 Maximum values per channel:
 $U_o = 17.6 \text{ V}$
 $I_o = 96 \text{ mA}$
 $P_o = 678 \text{ mW}$
 $R = 295 \text{ } \Omega$
 Characteristic line: trapezoidal
 The effective internal capacitances and inductances are negligibly small.

Ex ia	IIC		IIB	
max. permissible external inductance	1.2 mH	0.5 mH	13 mH	2 mH
max. permissible external capacitance	130 nF	150 nF	470 nF	1100 nF

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 intrinsically safe output circuits of channel 1 are safely galvanically separated from the intrinsically safe output circuits of channel 2.
 The intrinsically safe output circuits of the same channel are galvanically connected with each other.
 The intrinsically safe output circuits are safely galvanically separated from the non intrinsically safe circuits up to the peak crest value of the voltage of 375 V.