



EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 01 ATEX 2047

(4) Equipment: Excom Module, type DO40Ex

(5) Manufacturer: Hans Turck GmbH & Co. KG

(6) Address: 45472 Mülheim, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 PTB Ex 01-21030.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2

EN 50020:1994

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 shall include the following:

II 2 (1) G EEx ib [ia] IIC T4

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, May 8, 2001

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

4 pages, correct and complete as regards content.

By order:

Dr.-Ing. Johannsmeyer
Regierungsdirektor

Braunschweig, April 15, 2005

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 2047**

(15) Description of equipment

The Excom Module, type DO40Ex is used to transmit binary input and output signals from a fieldbus system to field circuits. The Excom Module, type DO40Ex is part of the fieldbus system *excom* in accordance with the separate examination certificate PTB 00 ATEX 2194 U. The Excom Module, type DO40Ex may be operated when being plugged into the module rack with backplane of the fieldbus system *excom*. In combination with the housing of the module rack, the degree of protection IP20 is guaranteed.

The maximum permissible range of the ambient temperature is -20 °C up to +60 °C.

Electrical data

I.) **AC-supply circuit**

type of protection Intrinsic Safety EEx ib IIC/IIB;
only for connection to the certified intrinsically safe circuit according to PTB 00 ATEX 2194 U.

Maximum values:

U = 20 V AC (amplitude)

f = 300 kHz ... 314 kHz

P = 4.8 W (power consumption)

C_i negligibly low

L_i negligibly low

The intrinsically safe AC-supply circuit is safely electrically isolated from ground and -up to a peak value of the nominal voltage of 60 V- from all other intrinsically safe circuits.

II.) **Signal circuit (CAN-BUS)**

(exclusively system-internal circuit, no external connection facilities)

III.) **Address coding**

(exclusively system-internal circuit, no external connection facilities)

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IV.) Field circuits

(terminals at the system-module rack for
channel 1: 1, 2
channel 2: 5, 6
channel 3: 9, 10
channel 4: 13, 14)

type of protection Intrinsic Safety EEx ia IIC/IIB;

Maximum values per channel:

$$U_o = 27 \text{ V}$$

$$I_o = 100 \text{ mA}$$

$$P_o = 675 \text{ mW}$$

characteristic: linear

$$C_i = 24 \text{ nF}$$

L_i negligibly low

Maximum permissible external values for:

(the values below correspond to the calculation program according to PTB report ThEx-10)

L_o (mH)	IIC	IIB
	C_o (nF)	C_o (nF)
2	--	286
0.99	30	346
0.5	46	426
0.2	66	576

Feldstromkreise

(terminals at the system-module rack for
channel 1: 3, 4
channel 2: 7, 8
channel 3: 11, 12
channel 4: 15, 16)

type of protection Intrinsic Safety EEx ia IIC/IIB;

Maximum values per channel:

$$U_o = 18.9 \text{ V}$$

$$I_o = 100 \text{ mA}$$

$$P_o = 675 \text{ mW}$$

characteristic: trapezoidal

$$C_i = 24 \text{ nF}$$

L_i negligibly low

Maximum permissible external values for:

(the values below correspond to the calculation program according to PTB report ThEx-10)

L_o (mH)	IIC	IIB
	C_o (nF)	C_o (nF)
2	--	976
1	86	976
0.5	106	976
0.2	156	1176

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The respective channels of the intrinsically safe field circuits are safely electrically isolated from ground. They are also electrically isolated from each other and from the intrinsically safe signal circuit (CAN-BUS) and address coding circuit up to a peak value of the nominal voltage of 30 V. The intrinsically safe signal circuit (CAN-BUS) and address coding circuit are electrically interconnected.

(16) Test report PTB Ex 01-21030

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, May 8, 2001

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 2047

(Translation)

Equipment: Excom Module, type DO40EX

Marking:  II 2 (1) G EEx Ib [Ia] IIC T4

Manufacturer: Hans Turck GmbH & Co. KG

Address: Witzlebenstr. 7
45472 Mülheim an der Ruhr,
Germany

Description of supplements and modifications

The Excom Module, type DO40Ex may in future also be manufactured according to the test documents listed in the test report.

The modifications concern the internal and external construction as well as the type designation and the marking for organizational reasons.

In future the apparatus will also be labelled with the following type designation according to the respective variant:

8/DO40Ex

In future the apparatus will be labelled with the following marking:

 II 2 (1 G/D) G EEx Ib [Ia] IIC T4

The electrical data and all other specifications are also valid for this 1st supplement.

Test report: PTB Ex 04-23349

Zertifizierungsstelle Explosionsschutz

By order:

Braunschweig, August 10, 2004

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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2. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 2047

(Translation)

Equipment: Excom Module, type DO40EX

Marking:  II 2 (1 G/D) G EEx Ib [Ia] IIC T4

Manufacturer: Hans Turck GmbH & Co. KG

Address: Witzlebenstr. 7, 45472 Mülheim an der Ruhr, Germany

Description of supplements and modifications

The Excom Module, type DO40Ex as well as the variant 8/DO40Ex may in future also be manufactured according to the test documents listed in the test report.

The input circuitry of the supply circuit has been modified and the layout of the circuit board has been adapted.

The electrical data and all other specifications are also valid for this 2nd supplement.

Test report: PTB Ex 05-25011

Zertifizierungsstelle Explosionsschutz

By order:

Braunschweig, April 15, 2005

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

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Konformitätserklärung Nr. 3028 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- 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

Feldbussystem excom Modul DO40Ex

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
DIN EN 61010-1 / 1994

und wo anwendbar
and where applicable

EN 60947-5-2 / 1997
EN 50014 + A1 +A2 / 1997 EN 50020 / 1994

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

Weitere Normen
additional standards

Aussteller der EG-Baumusterbescheinigung:

Physikalisch - Technische Bundesanstalt
Bundesallee 100, D-38116 Braunschweig
Kenn-Nr. 0102, Registriernummer: PTB 01 ATEX 2047

Mülheim, den 20.06.01

(U. Turck)

Ort und Datum der Ausstellung /
Place and date of issue

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