

DMT - CERT

EC-Type Examination Certificate

Equipment and protective systems intended for use
in potentially explosive atmospheres
Directive 94/9/EC –

(3) No. of EC-Type Examination Certificate

BVS 03 ATEX E 335

(4) **Equipment:** Couplers Type MC73-..1Ex.-R...; .MC73-..2Ex.-R...;
MK73R111Ex...; MK73R112Ex...;
MK73R222Ex...;

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

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

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 confidential test and assessment report no. BVS PP 03.2217 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50 014:1997 + A1 – A2	General requirements
EN 50 020:1994	Intrinsic safety
EN 50824:1999	Device group II, category 1G
EN 50281-1-1:1998	Dust explosion protection

(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 and construction of the specified equipment. Further requirements of Directive 94/9/EC apply to the manufacture and placing on the market of this equipment.

(12) The marking of the equipment shall include the following:

 II (1) GD [EEEx ia] IIC

Deutsche Montan Technologie GmbH
Bochum, 23 September 2003
Zertifizierungsstelle

(13)

Appendix to

(14)

EC-Type Examination Certificate BVS 03 ATEX E 335

(15)

15.1 Description and types

The couplers type MC73-..1Ex.-R...;
MC73-..2Ex.-R...;
MK73R111Ex...;
MK73R112Ex...;
MK73R222Ex...;

The figures and characters are used instead of further points to mark functional versions, which do not have any influence on the safety relevant data.

15.2. Description

The couplers, which are installed outside the explosion hazardous area, are designed to separate intrinsically safe and non-safe circuits. The MC types are incorporated on a 100 x 160 mm Eurocard housing. The MK types are built onto a printed circuit board which is integrated into a plastic housing for hat rail mounting. The installation outside the explosion hazardous area must meet at least IP20 protection degree requirements.

15.3 Nominal ratings

15.3.1 Coupler MC73-..1Ex.-R... (4 channels)

15.3.1.1 Non-intrinsically safe control circuit
Connection via pins zd6, zd8, zd10 and zd12

nominal voltage		DC ≤ 30 V
maximum voltage	U _m	AC 250 V

15.3.1.2 Potential-free intrinsically safe contact circuits (change-over)

Circuit 1: Connection via pins zbd20
Circuit 2: Connection via pins zbd24
Circuit 3: Connection via pins zbd28
Circuit 4: Connection via pins zbd32

Maximum switching voltage	U _i	DC 28 V
Maximum switching current	I _i	240 mA
Maximum switching capacity	P _i	7 W
Maximum internal capacitance	C _i	negligible
Maximum internal inductance	L _i	negligible

15.3.2 Coupler MC73-..2Ex.-R... (4 channels)

15.3.2.1 Non-intrinsically safe control circuit

Connection via pins zd6, zd8, zd10 and zd12

nominal voltage		DC $\leq$ 30 V
maximum voltage	U _m	AC 250 V

15.3.2.2 Potential-free intrinsically safe contact circuits (change-over)

Circuit 1: Connection via pins zbd20

Circuit 2: Connection via pins zbd24

Circuit 3: Connection via pins zbd28

Circuit 4: Connection via pins zbd32

Maximum switching voltage	U _i	DC 45 V
Maximum switching current	I _i	500 mA
Maximum switching capacity	P _i	10 W
Maximum internal capacitance	C _i	negligible
Maximum internal inductance L _i		negligible

15.3.3 Coupler MK73111Ex... (1 channel)

15.3.3.1 Non-intrinsically safe circuit

Connection via terminals 7 and 8

nominal voltage		DC $\leq$ 30 V
maximum voltage	U _m	AC 250 V

15.3.3.2 Potential-free intrinsically safe contact circuits (change-over)

Connection via terminals 11 to 14

Maximum switching voltage	U _i	DC 28 V
Maximum switching current	I _i	240 mA
Maximum switching capacity	P _i	7 W
Maximum internal capacitance	C _i	negligible
Maximum internal inductance L _i		negligible

15.3.4 Coupler MK73112Ex... (1 channel)

15.3.4.1 Non-intrinsically safe control circuit

Connection via terminals 7 and 8

nominal voltage		DC $\leq$ 30 V
maximum voltage	U _m	AC 250 V

15.3.4.2 Potential-free intrinsically safe contact circuits (change-over)

Connection via terminals 7 and 9

Maximum switching voltage	U _i	DC 45 V
Maximum switching current	I _i	200 mA
Maximum switching capacity	P _i	10 W
Maximum internal capacitance	C _i	negligible
Maximum internal inductance L _i		negligible

15.3.5 Coupler MK73222Ex... (2 channels)

15.3.5.1 Non-intrinsically safe control circuit

Connection via terminals 5 and 6 or 7 and 8

nominal voltage		DC $\leq$ 30 V
maximum voltage	U _m	AC 250 V

15.3.5.2 Potential-free intrinsically safe contact circuits (change-over)

Circuit 1: Connection via terminals 1 and 2

Circuit 2: Connection via terminals 3 and 4

Maximum switching voltage	U _i	DC 45 V
Maximum switching current	I _i	200 mA
Maximum switching capacity	P _i	10 W
Maximum internal capacitance	C _i	negligible
Maximum internal inductance L _i		negligible

15.3.6 Ambient temperature range: -25 °C...+60 °C.

(16) Test protocol

Test report no. BVS PP 03.2217 EG

(17) Special conditions for safe use

none

Translation only valid with German certificate!



DEKRA

1. Supplement

(Supplement according Directive 94/9/EC Appendix III Clause 6)

to EC - Type Examination Certificate BVS 03 ATEX E335

Equipment: Couplers Type IM73-**Ex-R/24VDC

Manufacturer: Hans Turck GmbH & Co. KG

Address 45472 Mülheim/Ruhr

Description

The coupler may be manufactured according the certification documents listed in the testreport and is listed as

Type IM73-**Ex-R/24VUC

Asterisks are replaced by letters or numbers to mark variants without influence in safety relevant data.

The coupler type IM73-**Ex-R/24VUC, installed outside hazardous areas, are designed to separate intrinsically safe and non-safe circuits.

The intrinsically safe circuits are separated up to 60V among each other. Separation to non intrinsically safe circuits is up to 375V.

The couplers IM73-**Ex-R/24VUC are built onto a printed circuit board which is integrated into a plastic housing. The installation outside the explosion hazardous area must meet at least IP20.

The essential health and safety requirements are assured by compliance with

EN 60079-0:2006 General requirements
EN 60079-11:2007 Type of protection intrinsically safe "i"
EN 60079-26:2004 Group II, Category 1G

The marking of the equipment shall include the following:



II (1) GD [Ex ia] IIC

DEKRA

Nominal ratings

- 1 Non intrinsically safe circuit
Terminal 7, 8 and 10, 11

nominal voltage ≤ 30 V
maximum voltage U_m AC 250 V

- 2 Potential free intrinsically safe contact circuits (change over)
Circuit 1: Terminal 4, 5 and 6
Circuit 2: Terminal 1, 2 and 3

maximum switching voltage U_i DC 28 V
maximum switching current I_i 240 mA
maximum switching capacity P_i 7 W
maximum internal capacity C_i negligible
maximum internal inductivity L_i negligible

The potential-free contact circuits in type of protection Ex ia IIC are in accordance with EN 60079-11, category "ia".
These circuits may be connected to apparatus installed in areas of category 1G, resp. 1D.

- 3 Ambient temperature - 25°C up to + 70°C

Special conditions for safe use

none

Testreport

BVS PP 03.2217 EG, dated 29.08.2007

DEKRA EXAM GmbH
Bochum, dated 29.August 2007

Signed notified body

Signed Testlaboratory

Konformitätserklärung **Nr. 3110-3 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

**Koppelgeräte Typenreihe MC73-..1Ex.-R... ; MC73-..2Ex.R... ; MK73R111Ex... ;
MK73R112Ex... ; MK73R222Ex... ; IM73-**Ex-R/24VUC**

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

EN 61326:2006

und wo anwendbar
and where applicable

EN 60079-0:2006 EN 60079-11:2007 EN 60079-26:2004 EN 60079-15:2005

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

EMV - Richtlinie	/ EMC Directive	2004 / 108 / EG	15. Dez. 2004
Richtlinie ATEX 100a	/ Directive ATEX 100a	94 / 9 / EG	23. März 1994

Weitere Normen
additional standards

Aussteller der EG-Baumusterbescheinigung:

DEKRA EXAM GmbH
Dinnendahlstraße 9, D-44809 Bochum
Kenn-Nr. 0158, Registriernummer: BVS 03 ATEX E 335 Kennzeichnung  II (1) GD

Aussteller der ATEX Prüfbescheinigung:

Hans Turck GmbH & Co KG, D-45472 Mülheim a.d. Ruhr
Registriernummer: TURCK Ex-06007M X Kennzeichnung  II 3 G

Mülheim, den 16.07.08

(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