



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 BVS 11.0045X issue No.: 0 Certificate history:

Status: **Current**

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Applicant: **Hans Turck GmbH & Co. KG**
Witzlebenstr. 7
45472 Mülheim/Ruhr
Germany


Electrical Apparatus: **Multibarrier type MBD 4**/Ex**
Optional accessory:

Type of Protection: Equipment protection by intrinsic safety "i", Equipment protection by encapsulation "m", Equipment with equipment protection level (EPL) Ga, Fieldbus intrinsically safe concept (FISCO), Equipment protection by increased safety "e", Protection by intrinsic safety 'iD'

Marking: **Ex mb eb ib [ia] IIC T4 or
Ex mb e ib [ia Ga] IIC T4 Gb
[Ex ia] IIIC or [Ex ia Da] IIIC**

Approved for issue on behalf of the IECEx Certification Body: H.-Ch. Simanski

Position: Head of Certification Body

Signature: 
(for printed version)

Date: 31/5/2011

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:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany



DEKRA EXAM GmbH



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Manufacturer: **Hans Turck GmbH & Co. KG**
Witzlebenstr. 7
45472 Mülheim/Ruhr
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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2009 Edition: 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
IEC 60079-27 : 2008 Edition: 2.0	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'iD'

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

Test Report:

DE/BVS/ExTR11.0065/00

Quality Assessment Report:

DE/PTB/QAR06.0013/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Parameters

1 Input (terminals TRUNK IN and TRUNK OUT, +, -)

Nominal voltage	DC	24	V
Range of nominal voltage	DC	16-32	V
Max. voltage	Um	AC	253 V
Nominal current		2	A

2 Output circuits (terminals SPUR 1 up to 4 or 1 up to 8: +, -)

Nominal voltage	Un	DC	13.5	V
Nominal current	In		40	mA

Safety relevant maximum values for each circuit

Voltage	Uo	DC	15.7	V
Current	Io		245	mA
Power	Po		960	mW

Linear output characteristic

Internal capacitance	CI		1.1	nF
Internal inductance	LI			negligible

For maximum values of external inductance and capacitance see the following table:

	IIB	IIC
Lo [mH]	2.9	0.58
Co [nF]	2878	476
Lo/Ro [μ H/ Ω]	148	37

CONDITIONS OF CERTIFICATION: YES as shown below:

For use of the multibarrier in Zone 1, the multibarrier has to be mounted inside a suitable and certified enclosure type of protection "Increased safety e".

For use of the multibarrier in Zone 21, the multibarrier has to be mounted inside a suitable and certified enclosure that is in acc. with IEC 61241-1 resp. IEC 60079-31.



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EQUIPMENT(continued):

Parameters (continued)

If inductances and capacitances are concentrated, the following values apply:

	IIB				IIC
Lo [mH]	0.5	1.0	2.0	2.9	0.5
Co [nF]	2698	2198	1598	1198	368

3 Ambient temperature range Ta -40 °C up to +75 °C

Description

See Annex

Annexe: BVS_11_0045X_Turck_Annex.pdf



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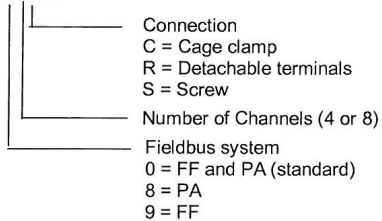
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Description

The multibarrier serves for coupling between a field bus trunk line (TRUNK) and 4 resp. 8 spur lines (SPUR).

Instead of the *** in the complete denomination letters and numerals are inserted which characterize the following modifications:

Type MBD 4*-**/Ex



The multibarrier must be installed in an appropriate enclosure, certified for that use.

The multibarrier's intrinsically safe output circuits perform level of protection Ex ia and thus can extend into areas requiring Category 1 devices. These output circuits constitute a FISCO Power Supply for connection to field bus systems as per IEC 60079-27. The external cable used for this application has to be in accordance with the specification of EN 60079-27 in respect to its design (cable parameter).

The intrinsically safe output circuits are as well suitable for connection to field bus system as per the Foundation Fieldbus ENTITY model.