



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 PTB 15.0042X Issue No: 0 Certificate history:
Issue No. 0 (2016-03-03)

Status: **Current** Page 1 of 3

Date of Issue: **2016-03-03**

Applicant: **Hans Turck GmbH & Co.KG**
Witzlebenstraße 7
45472 Mülheim
Germany

Equipment: **Fiber-optic coupler type OC11Ex/2G...**
Optional accessory:

Type of Protection: **Increased Safety, Intrinsic Safety, Encapsulation, Transmission systems using optical radiation**

Marking: Ex e mb [ib op is] IIC T4 Gb
Ex eb mb [ib op is Gb] IIC T4

*Approved for issue on behalf of the IECEx
Certification Body:*

Dr.-Ing. T. Horn

Position:

Head of Working Group "Intrinsic Safety"

*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:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany





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Manufacturer: **Hans Turck GmbH & Co.KG**
Witzlebenstraße 7
45472 Mülheim
Germany

Additional 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
IEC 60079-28 : 2015 Edition:2	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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/PTB/ExTR15.0050/00](#)

Quality Assessment Report:

[DE/PTB/QAR06.0013/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

see the attachement to this certificate.

CONDITIONS OF CERTIFICATION: YES as shown below:

see the attachement to this certificate.

Annex:

[CoCA15_0042X-0.pdf](#)



Applicant: Hans Turck GmbH & Co.KG
Witzlebenstraße 7, 45472 Mülheim an der Ruhr, Germany

Electrical Apparatus: Fiber-optic coupler type OC11Ex/2G...

Description of equipment

The fiber-optic coupler type OC11Ex/2G... is intended for data exchange by Profibus participants between fiber-optic couplers using optical waveguides. The wire bound Profibus is splitted in the fiber-optic coupler into two optical waveguides (input, output), and is re-converted into a wire bound Profibus by means of a second remote fiber-optic coupler.

The permissible ambient temperature range is: -20 °C to +70 °C

Electrical data

Supply circuit
(Terminal L+, L-)

Type of protection Increased Safety Ex eb IIC

$$U_{\max} = 32 \text{ VDC}$$

$$I_{\max} = 100 \text{ mA}$$

$$P_{\max} = 2 \text{ W}$$

maximum safety related voltage $U_m = 60\text{V}$

Ex-Profibus RS485-IS
(D-Sub terminal, 9-pin)

Type of protection Intrinsic Safety Ex ib IIC;
maximum values:

$$U_o = 3.64 \text{ V}$$

$$I_o = 127 \text{ mA}$$

$$P_o = 116 \text{ mW}$$

C_i negligibly small

L_i negligibly small

linear characteristic

in connection with an active intrinsically safe Profibus the following max. value applies:

$$U_i = 4.2 \text{ V}$$

Communication interface RS485
(M8-Rundstecker, 4-polig)

Type of protection Intrinsic Safety Ex ib IIC;
maximum values:

$$U_o = 3.64 \text{ V}$$

$$I_o = 3.6 \text{ mA}$$

$$P_o = 3 \text{ mW}$$

C_i negligibly small

L_i negligibly small

linear characteristic



or

Interconnection with a second intrinsically safe fiber-optic coupler type OC11Ex/2G...

Optical interface

Protection of equipment and transmission systems using optical radiation op is IIC Gb;
maximum value:

$$P_{\text{opt.}} = 2.3 \text{ mW}$$

only for connection to the optical interface of the fiber-optic coupler type OC11Ex/2G... or type OC11Ex/3G...

The intrinsically safe circuits are electrically separated from the non-intrinsically safe circuits and from earth up to a peak voltage of 60 V.

Special conditions for safe use

For installation and operation in hazardous areas the fiber-optic coupler type OC11Ex/2G... has to be installed in a separately certified enclosure that meets the requirements of the type of protection "Increased Safety" and has at least a degree of protection IP54.

The optical waveguide has to be electrically insulated and used without screening and shall not be armoured.