



(1) 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 09 ATEX 2013



(4) Equipment: Excom-module Gateway, type GDP-IS...

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

(6) Address: Witzlebenstraße 7, 45472 Mülheim an der Ruhr, 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 assessment and test report PTB Ex 10-29047.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2006 **EN 60079-11:2007** **EN 60079-25:2004**

(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 G Ex ib IIC T4

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, January 13, 2010

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



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SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 09 ATEX 2013**

(15) Description of equipment

The Excom-module Gateway, type GDP-IS... is used as an interface between the internal communication circuits of the Excom system and external RS485-IS-bus systems (Profibus DP). In addition, it provides system-internal connections to a second gateway intended for redundant operation, address circuits and Can bus connections.

The Gateway, type GDP-IS... is part of the excom fieldbus system certified under PTB 00 ATEX 2194 U. It may be installed and operated in the module racks of types MT18..., MT9..., and MT5... with backplane of the remote I/O-fieldbus system. In combination with the enclosure of the module the degree of protection IP20 is provided for.

The equipment is intended for application inside the hazardous area.

The permissible range of the ambient temperature is: -20 °C ... 70 °C.

Electrical data

I.) AC-supply circuit.....type of protection Intrinsic Safety Ex ib IIC
only for connection to the intrinsically safe
circuit according to PTB 00 ATEX 2194 U

Maximum values:

U = 20 V AC (Amplitude)

f = 300 kHz ... 314 kHz

P = 1 W (power consumption)

C_i negligibly low

L_i negligibly low

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

II.) Signal circuit (CANbus).....system-internal circuit
without facilities for external connections

IIIa.) Address coding,.....system-internal circuit
internal communication, without facilities for external connections
power supply unit monitoring

IIIb.) Internalcommunication.....system-internal circuit
between GW1 and GW2 without facilities for external connections

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- IV.) RS485-IS-fieldbus terminaltype of protection Intrinsic Safety Ex ib IIC
(via D-SUB connector
on system module rack, pins 3,5,6,8)

Maximum values:

$$U_o = 3.6 \text{ V}$$

$$I_o = 125 \text{ mA}$$

$$P_o = 112.5 \text{ mW}$$

linear characteristic

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

- External RS485-IS-fieldbus terminaltype of protection Intrinsic Safety Ex ib IIC

Maximum values for each pair of terminals:

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

Maximum value, sum of all pairs of
terminals:

$$I_i = 4.8 \text{ A}$$

- Cables (loop resistance)type of cable A or B acc. to EN 60079-25
with the following resistances per unit
length:

$$L'/R' \leq 15 \text{ } \mu\text{H}/\Omega$$

$$C' \leq 250 \text{ nF/km}$$

litz wire diameter $\geq 0.2 \text{ mm}$

Concentrated reactances in the cable run
of the external RS485-IS-fieldbus system
are not permitted.

The intrinsically safe Profibus DP, RS485-IS, is safely electrically isolated from ground and from all other intrinsically safe circuits up to a peak value of the nominal voltage of 60 V.

- (16) Assessment and test report PTB Ex 10-29047

- (17) Special conditions for safe use
none

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

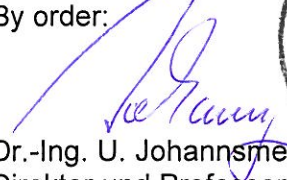
SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 09 ATEX 2013

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungssektor Explosionsschutz

By order:


Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Braunschweig, January 13, 2010

1. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 09 ATEX 2013

(Translation)

Equipment: Excom module, Gateway, type GDP-IS...

Marking:  II 2 G Ex ib IIC T4 Gb or II 2 G Ex ib IIC T4

Manufacturer: Hans Turck GmbH & Co. KG

Address: Witzlebenstraße 7, 45472 Mülheim an der Ruhr, Germany

Description of supplements and modifications

In the future the Excom module, type GDP-IS... may also be manufactured according to the test documents listed in the test report. The modifications concern the implementation of changes which are not relevant for safety and an update of the state of the standards for organisational reasons.

The application conditions, the permissible ambient temperature range, the electrical data and all other specifications of the EC-type examination certificate apply without changes.

Applied standards

EN 60079-0:2009

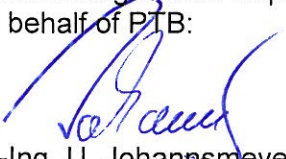
EN 60079-11:2012

EN 60079-25:2010

Test report: PTB Ex 12-21301

Zertifizierungssektor Explosionsschutz

On behalf of PTB:


Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Braunschweig, August 7, 2012

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