



1 UNITED KINGDOM CONFORMITY ASSESSMENT

UK TYPE EXAMINATION CERTIFICATE

2 Product or Protective System Intended for use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Type Examination Certificate No.: TÜV 22 UKEX 7114 Issue: 00

4 Product: Gateway, type GDP-IS...

5 Manufacturer: Hans Turck GmbH & Co KG

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

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 TÜV Rheinland UK Ltd, Approved Body number 2571, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential report 557 / UKEx 7114.00 / 22.

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

EN IEC 60079-0:2018

EN 60079-11:2012

EN 60079-25:2010

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:



II 2 G Ex ib IIC T4 Gb

This certificate and its schedules may only be reproduced in its entirety and without change.

TÜV Rheinland UK Ltd

Solihull, 2023-02-02

Dipl.-Ing. Klauspeter Graffi

This Type Examination Certificate without signature shall not be valid. Alterations are subject to approval by
TÜV Rheinland UK Ltd, 1011 Stratford Road, Shirley, Solihull, B90 4BN, Tel. +44 (0) 121 7969400
A UKAS accredited certification body, No. 8400

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Precisely Right.

13 SCHEDULE TO UK TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER TÜV 22 UKEX 7114

15 Description of Product

Gateway, type GDP-IS...

General product information

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 TÜV 22 UKEX 7116 U. It may be installed and operated in the module racks 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 gas area of up to zone 1.

Technical Data

I.) AC-supply circuit	type of protection Intrinsic Safety Ex ib IIC only for connection to the intrinsically safe circuit according to IECEx PTB 13.0040 U
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Maximum values:
 $U = 20 \text{ V AC (Amplitude)}$
 $f = 300 \text{ kHz ... } 314 \text{ kHz}$
 $P = 1 \text{ W (power consumption)}$
 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 (CAN-Bus)	system-internal circuit without facilities for external connections
IIIa.) Adress coding, internal communication	system-internal circuit without facilities for external connections
IIIb.) Internal communication between GW1 and GW2	system-internal circuit without facilities for external connections
IV.) RS485-IS-Fieldbus terminal (via D-SUB connector on system module rack, pins 3,5,6,8)	type of protection Intrinsic Safety Ex ib IIC 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 terminal	type 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 IEC 60079-25 with the following parameters per unit length: $L'/R' \leq 15 \text{ } \mu\text{H}/\Omega$ $C' \leq 250 \text{ nF/km}$ strand 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.

The permissible range of the ambient temperature is $-20 \text{ }^\circ\text{C}$ up to $70 \text{ }^\circ\text{C}$.

List of used equipment and components

Device	Manufacturer	Type	Ex-Marking	Certificate no.
none				

16 Test report No. (associated with this certificate issue): 557 / UKEx 7114.00 / 22

17 Schedule of Limitations
 none

18 Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

Reg. no.	Document title:	Document no.:	Rev.:	Date:
1.	Approval documentation GDP-IS (148 p.)	Approval documentation GDP-IS signed.pdf	00	29.01.2023