



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx ULD 20.0042X** Page 1 of 3 [Certificate history:](#)  
Status: **Current** Issue No: 0  
Date of Issue: 2021-02-25  
Applicant: **G.M. International S.R.L.**  
Via G. Mameli 53/55  
20852 Villasanta (MB)  
**Italy**  
Equipment: **HART® Multiplexer Modem and HART® Termination Boards, Modem: 5700 series and Termination Boards:  
Models TBE-D5001-HRT-xxx (xxx ≥ 003)**  
Optional accessory:  
Type of Protection: **Increased Safety "ec"**  
Marking: **Ex ec IIC T4 Gc**  
**-40°C to +70°C**

Approved for issue on behalf of the IECEx  
Certification Body:

**Katy A. Holdredge**

Position:

**Senior Staff Engineer**

Signature:  
(for printed version)

Date:

2021-02-25

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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**UL International DEMKO A/S**  
**Borupvang 5A**  
**DK-2750 Ballerup**  
**Denmark**





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Manufacturer: **G.M. International S.R.L.**  
Via G. Mameli 53/55  
20852 Villasanta (MB)  
**Italy**

Additional  
manufacturing  
locations:

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 equipment 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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with 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:

[DK/ULD/ExTR20.0042/00](#)

Quality Assessment Report:

[NO/DNV/QAR07.0005/09](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The HART® Multiplexer Modem 5700 interfaces up to 256 smart devices (transmitters, I/P, proportional valves, etc...) in a HART® Network. Each device can be fully identified, configured and monitored by a remote PC running an FDT-based software package (PACTware™, etc...) through a dedicated Device Type Manager (DTM).

Up to 63 Multiplexer Modem 5700 (16128 loops) can be connected in multi-drop mode to the PC through the RS485 HART® Protocol, whose baudrate can be configured via software.

The module is intended to be mounted on the following Termination Boards:

- TBE-D5001-HRT-003: to be used with G.M. International AI/AO Termination Boards;
- TBE-D5001-HRT-xxx (xxx ≥ 004): to be used with DIN-Rail mounted barriers/isolators or direct field connections.

Termination board types can be combined to manage different interfaces at the same time, simply respecting maximum number of connected channels. The unit is supported by an aluminum shell, that completely covers the back side and allows for the DIN rail mounting.

The HART® Multiplexer Modem 5700 and the HART® Termination Boards TBE-D5001-HRT-xxx are SIL 3 certified as non-interfering with the signal loops. The module guarantees three-port (supply / interface / channels) isolation.

**Please see Annex for additional information.**

## SPECIFIC CONDITIONS OF USE: YES as shown below:

- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- For hazardous locations, the unit shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0, that must have a door or cover accessible only by the use of a tool.
- The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application.
- For HART® Multiplexer Modem, 5700 series only:
  - 5700 series is only to be mounted on Termination Boards Models TBE-D5001-HRT-xxx (xxx ≥ 003); and
  - Mini USB connector is intended for configuration purposes and shall not be used when installed in Hazardous Area, unless area is known to be non-hazardous.
- For HART® Termination Boards, Models TBE-D5001-HRT-xxx (xxx ≥ 003) only:
  - TBE-D5001-HRT-003, TBE-D5001-HRT-xxx series shall only be used to mount one HART® Multiplexer Modem, 5700 series; and
  - For hazardous locations, TBE-D5001-HRT-003, TBE-D5001-HRT-xxx series shall only be installed in an interlocked enclosure. As an alternative the end-enclosure shall carry the following warning marking: "WARNING – DO NOT REMOVE OR REPLACE FUSE WHEN ENERGIZED".

## Annex:

[Annex to IECEx ULD 20.0042X Issue 0.pdf](#)



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## TYPE DESIGNATION

Nomenclature of HART® Multiplexer Modem, 5700 series:

5700	-xxx
I	II

I – Series designation:

5700: HART® Multiplexer Modem

II – Optional for specific function

-xxx: any alphanumeric characters, no safety relevant

Nomenclature HART® Termination Boards:

TBE	-D5001	-HRT	-003
I	II	III	IV

I – Series designation:

TBE: Termination boards with Enclosure

II – Module:

-D5001: slot board to house 1 piece of 5700 HART® Multiplexer Modem from D5000 series

III – Type Protocol:

-HRT: HART®-compatible 4/20 mA field loop

IV – Type:

-003: HART® Mux Term. Board for GMI Term. Board Connection

-xxx: where xxx ≥ 004, HART® Mux Term. Board with Terminal Outputs

## PARAMETERS RELATING TO THE SAFETY

Model	Supply voltage (J1)	Current consumption	Power consumption
Multiplexer Modem, 5700 series	24V dc (SELV) (18-30V dc tolerances)	Max. 40 mA	Max. 0.5 W

Model	Supply voltage (PWR 1, PWR 2)	Current consumption	Power consumption	Communication
Termination Board, Model TBE-D5001-HRT-003	24V dc (SELV) (18-30V dc tolerances)	Max. 35 mA	Max. 110mW	RS485-1, RS485-2
Termination Boards, Models TBE-D5001-HRT-xxx (xxx ≥ 004)	24V dc (SELV) (18-30V dc tolerances)	Max. 45 mA	Max. 110mW	RS485-1, RS485-2



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Other (I/O):

The following communications circuits are provided:

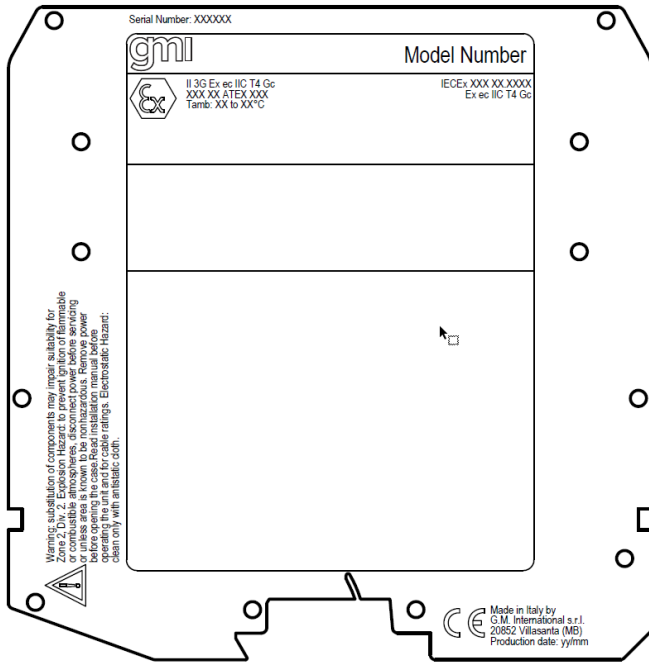
TBE-D5001-HRT-003: 64 analogue signals, 4-20mA

TBE-D5001-HRT-xxx (xxx ≥ 004): 32 analogue signals, 4-20mA or 1-5V

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

Marking of HART® Multiplexer Modem, 5700 series:



Manufacturer: G.M. International 20852 Villasanta Italy (complete address details can be added)

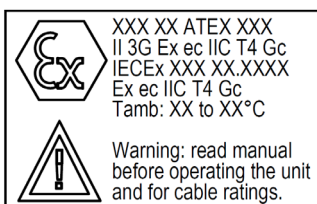
Model Number: 5700, 5700-xxx

IECEX Certification: Ex ec IIC T4 Gc and IECEX ULD 20.0042X

Ambient Temperature: -40°C to +70°C

Identification Data: Serial Number, Production Date, logo. Serial number and production date can be encrypted.

Marking of HART® Termination Boards, Models TBE-D5001-HRT-xxx (xxx ≥ 003):





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Manufacturer: G.M. International 20852 Villasanta Italy (complete address details can be added)

Model Number: TBE-D5001-HRT-003, TBE-D5001-HRT-xxx (xxx ≥ 004)

IECEx Certification: Ex ec IIC T4 Gc and IECEx ULD 20.0042X

Ambient Temperature: -40°C to +70°C

Identification Data: Serial Number, Production Date, logo. Serial number and production date can be encrypted.