

[1]

# TYPE EXAMINATION CERTIFICATE



[2]

## Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3]

Type Examination Certificate Number: **UL 20 ATEX 2492X Rev. 0**

[4]

Product: **HART® Multiplexer Modem, 5700 series and HART® Termination Boards, Models TBE-D5001-HRT-xxx (xxx ≥ 003)**

[5]

Manufacturer: **G.M. International S.R.L.**

[6]

Address: **Via G. Mameli, 53/55, 20852 Villasanta, MB, Italy**

[7]

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

[8]

UL International Demko A/S 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 Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **DK/ULD/ExTR20.0042/00.**

[9]

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

**EN IEC 60079-0:2018**

**EN IEC 60079-7: 2015 +A1:2018**

except in respect of those requirements listed at item 18 of the Schedule.

[10]

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11]

This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12]

The marking of the product shall include the following:

 **II 3 G Ex ec IIC T4 Gc**

**Certification Manager**  
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**Date of issue:** 2021-02-25

**Certification Body**

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark  
Tel. +45 44 85 65 65, [info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)



[13]

[14]

# Schedule TYPE EXAMINATION CERTIFICATE No. UL 20 ATEX 2492X Rev. 0

[15]

Description of Product:

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 baud rate 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 aluminium 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.

Nomenclature for 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 for 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

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015 .

Temperature range:

The ambient temperature range is -40 °C to +70 °C.

Electrical data:

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

- 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

Routine tests:

N/A

[16]

Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this Type Examination Certificate.



[13]

[14]

**Schedule**  
**TYPE EXAMINATION CERTIFICATE No.**  
**UL 20 ATEX 2492X Rev. 0**

[17]

Special Conditions of Use:

- The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1.
- For hazardous locations, the unit shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with EN 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".

[18]

Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

