5700

SIL3 HART® Mux Modem for Termination Board

The HART® Multiplexer Modem 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 either by a remote PC running an FDT-based software package (PACTware™, etc...) through a dedicated Device Type Manager (DTM), by HART® OPC Server, or by a specific asset management system. Check system software compatibility according to APN0040. Up to 63 Multiplexer Modem (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 Term. Boards:
- TB(E)-D5001-HRT-003: to be used with GMI AI/AO Term. Boards;
- TB(E)-D5001-HRT-004: to be used with DIN-Rail mounted barriers/isolators or direct field connections, 4-20 mA loop signals, AI card impedance = 250 Ω;
- TB(E)-D5001-HRT-005: to be used with DIN-Rail mounted barriers/isolators or direct field connections, 1-5 V loop signals;
- TB(E)-D5001-HRT-006: to be used with DIN-Rail mounted barriers/isolators or direct field connections, 4-20 mA loop signals, AI card impedance = 100÷150 Ω;
- TB(E)-D5001-HRT-007: to be used with DIN-Rail mounted barriers/isolators or direct field connections, 4-20 mA loop signals, AI card impedance = 0÷50 Ω.

Termination board types can be combined to manage different interfaces at the same time, provided the maximum number of channels is not exceeded.
The HART® Multiplexer Modem is SIL 3 certified as non-interfering with the signal loops.

FEATURES

- SIL 3 / SC 3
- Installation in Zone 2/Div. 2
- Up to 256 channels (extendable to 16128 with 63 multi-drop units)
- HART® RS-485 interface to access field smart devices
- Three port isolation, Field Interface/Serial Interface/Supply
- Simplified installation on custom Termination Boards

OVERALL DIMENSIONS

TECHNICAL DATA

Supply

24 Vdc nom (18 to 30 Vdc) reverse polarity protected, provided through Termination Board.
Current consumption: 20 mA @ 24 Vdc typical (modem only), 40 mA @ 24 Vdc in full topology (with maximum number of extension boards), typical.
Power dissipation: 0.5 W @ 24 Vdc typical (modem only), 1 W @ 24 Vdc in full topology (with maximum number of extension boards), typical.

Field Interface

Number of channels: 256.
HART® field device revision: 5 to 7.

Write Protection

The HART® Multiplexer Modem 5700 can be protected against writing by shorting terminals 7 and 8.

Serial Interface

Type: RS-485 differential pair and grounding.
Topology: multi-drop, master/slave connection.
Address: 0 - 62, software configurable.
Baudrate: from 1200 to 115200 bps, software configurable.

Isolation

Field Interface/Serial Interface 500 V; Field Interface/Supply 500 V; Supply/Serial Interface 500 V.

Environmental conditions

Operating temperature: temperature limits –40 to +70 °C.
Max altitude: 2000 m a.s.l.
Storage temperature: temperature limits –45 to +80 °C.

Mounting

on custom Term. Board.
Weight: about 100 g.
Location: installation in Safe Area or Zone 2, Group IIC T4, or Class 1, Div. 2, Group A, B, C, D, T4.
Connection: Width 235 mm, Depth 135 mm, Height 154 mm.
Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

ORDERING INFORMATION

Ordering codes

5700: supports PACTware™, HART® OPC Server, ABB Ability™, Endress+Hauser FieldCare™, etc., any software FDT/DTM compliant
5700-110: supports Emerson AMS™

Accessories

Programmable USB serial line Kit PPC5092 + SWC5090.

Functional Safety Management Certification:
GM International is certified to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3. In addition, GM International products have been granted I.S. certificates from the most credited Notified Bodies in the world.

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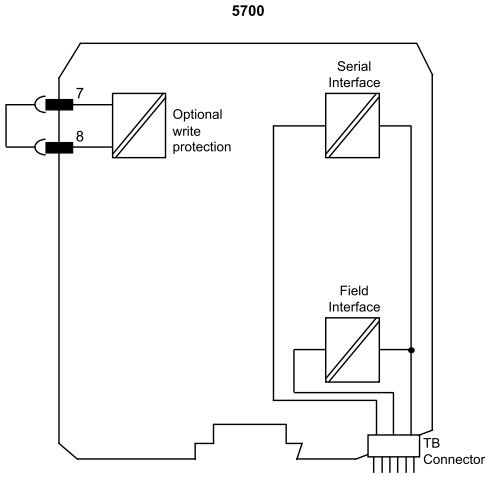
FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

Field ***Safe Area/Zone 2/Div. 2***



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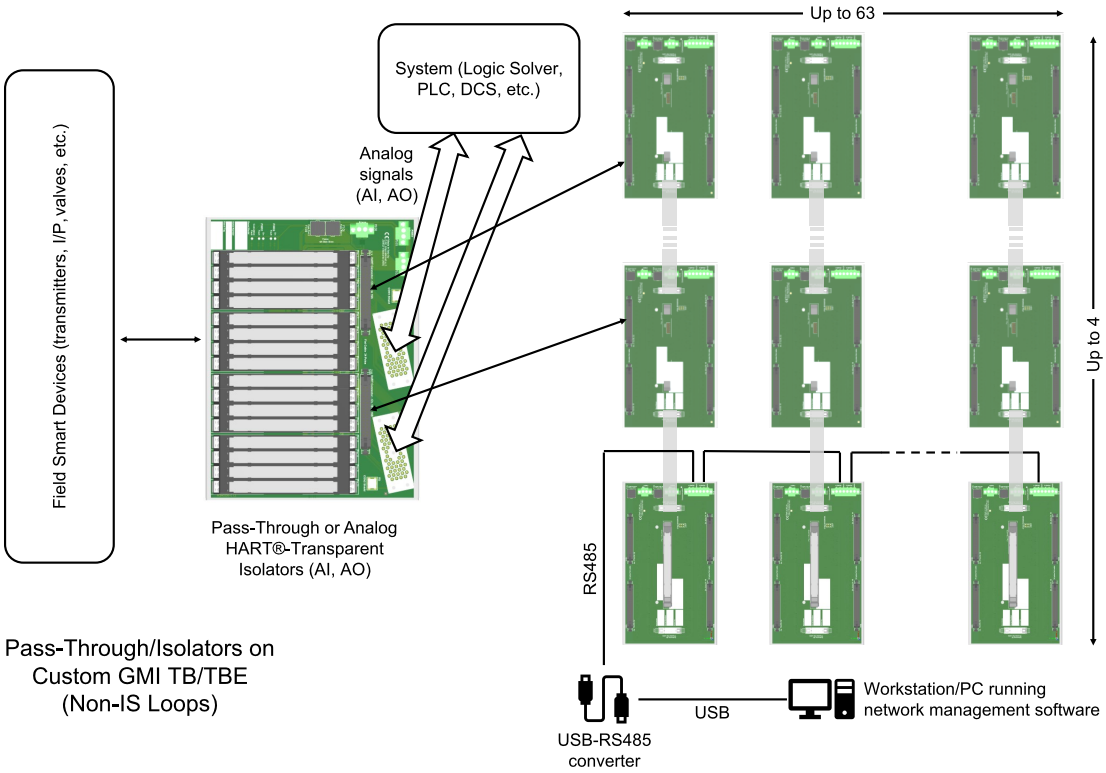
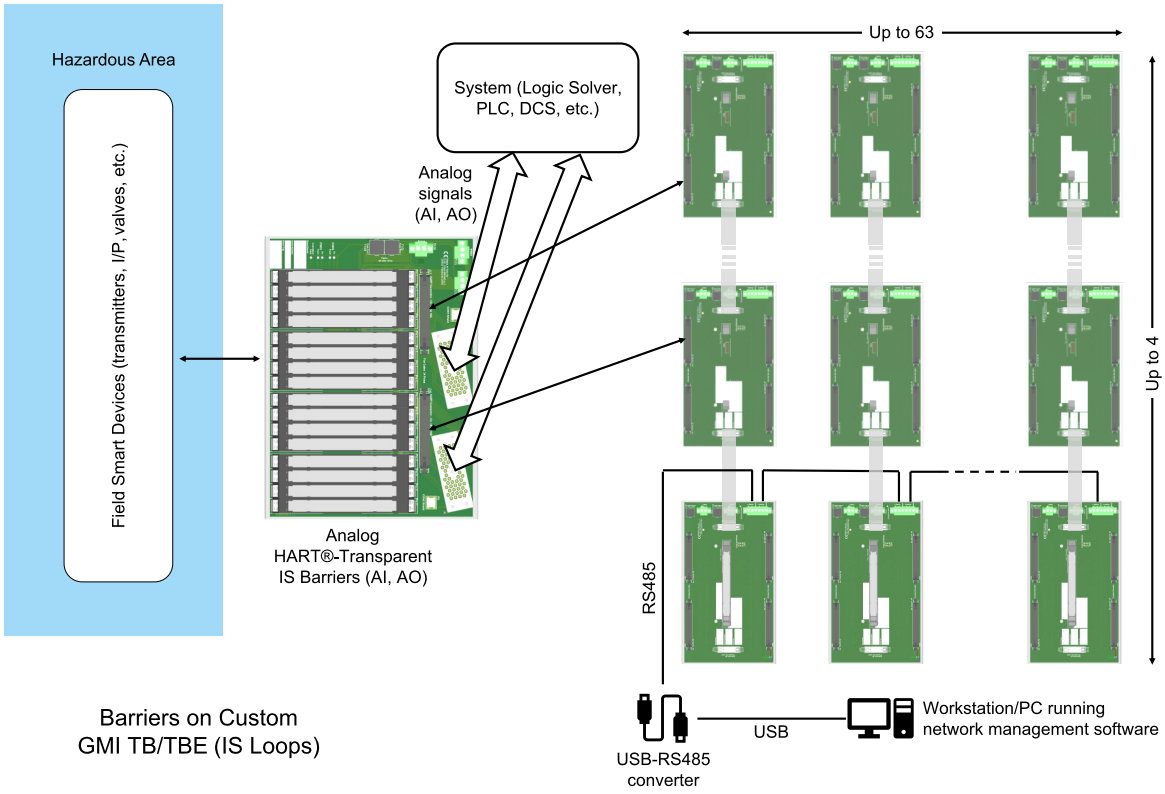
HART MUX + GMI TERM. BOARDS NETWORK



Pass-Through/Isolators on Custom GMI TB/TBE (Non-IS Loops)



Barriers on Custom GMI TB/TBE (IS Loops)

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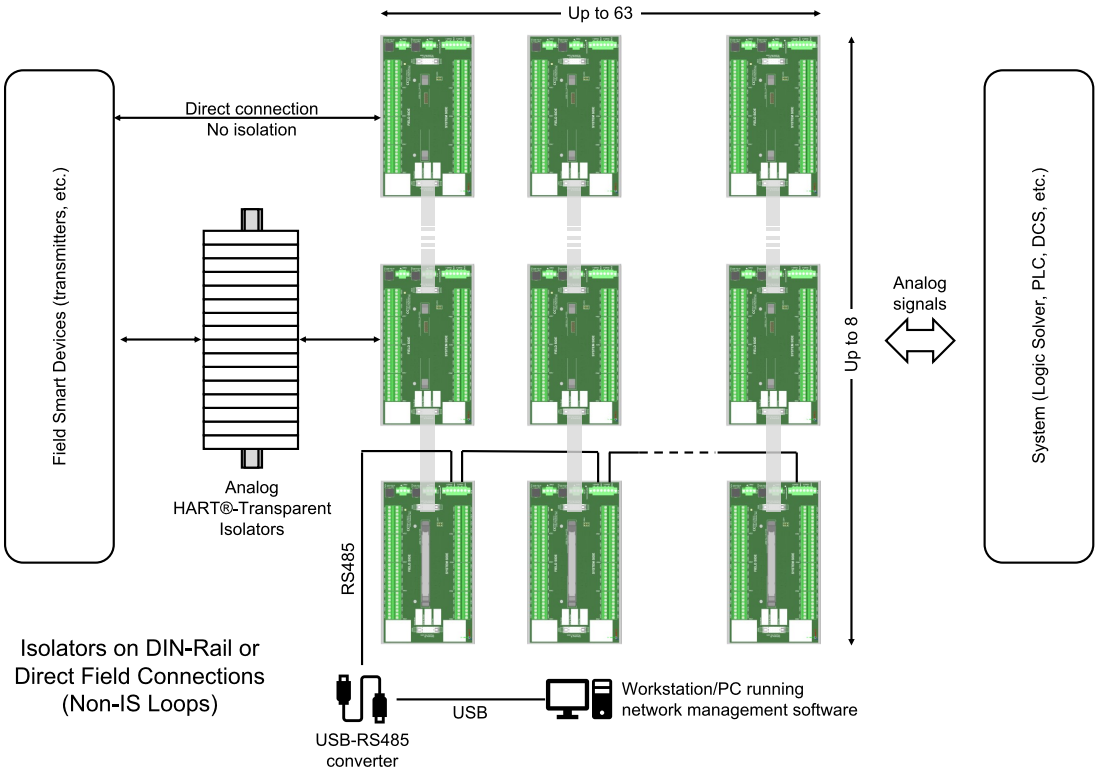
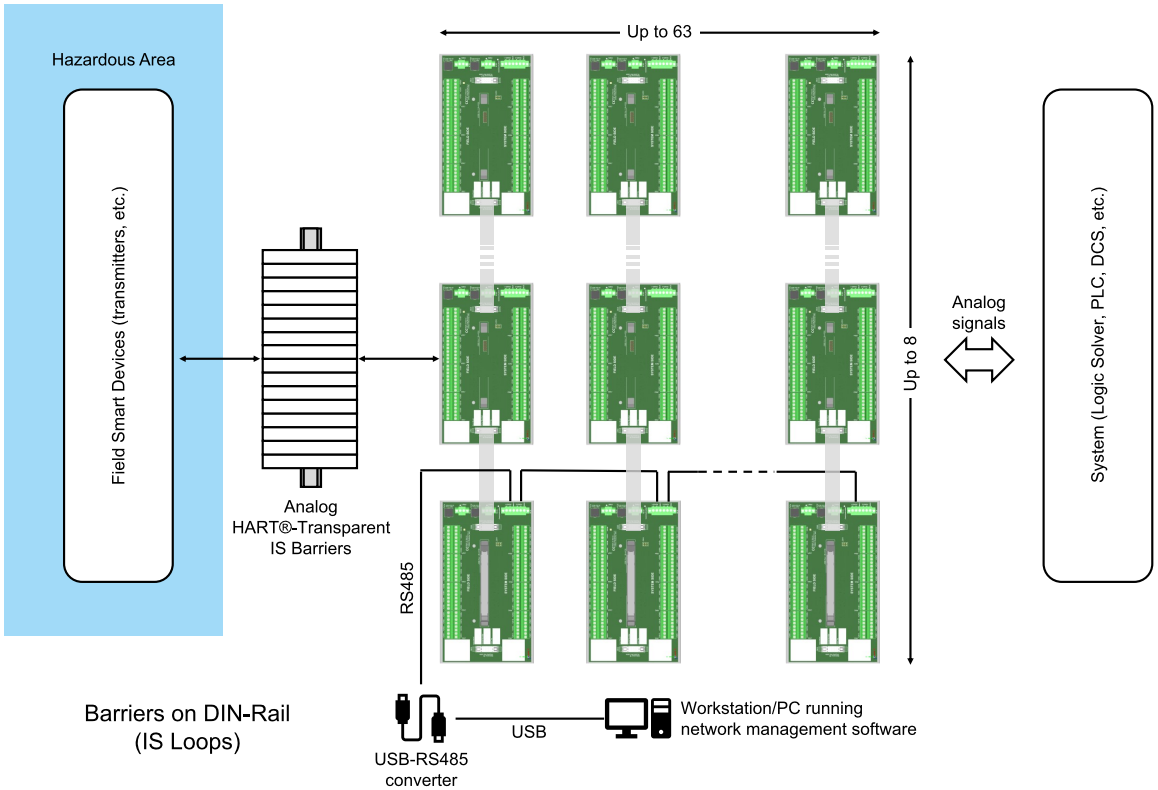
HART MUX + BARRIERS/ISOLATORS NETWORK





FSM SIL 3

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