

# **TBE-D5001-TRI-001**

# SIL3 HART® Mux Term. Board for Tricon AI Cards 3700, 3700A, 3721 and Tricon CX AI Card 3722X

This Termination Board with Enclosure (TBE) provides direct connection between the I/O Card of the system and 2-wire passive or active transmitters. At the same time, it makes available an interface for the remote monitoring of any HART®-compatible 4/20 mA field device. This is obtained by a locally mounted HART® Multiplexer Modem 5700 series and by terminal block connectors to access the loops.

The single TBE-D5001-TRI-001 Termination Board supports 32 channels. Yet, it could be extended with additional units (up to 8) to manage all 256 channels available on the HART® Modem 5700 series.

The Mux unit connects, via the RS-485 interface, to an external PC running an FDT-based software package (PACTware™, etc...) through a dedicated Device Type Manager (DTM). The PC can communicate with multiple Mux units, located on different boards, in a multi-drop RS-485 mode.

The 24 Vdc Power Supply of the TBE is connected to two plug-in terminal blocks, for a redundant power supply.

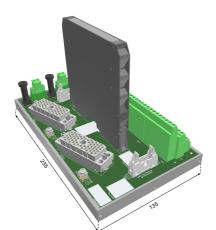
# **FEATURES**

• SIL 3 / SC 3

- HART® Multiplexing Board of up to 32 analog signals (extendable to 256)
- Tricon AI Cards board interfaces up to 32 channels
- Field terminals for 2-wire passive/active transmitters
- On-board voltage/current protections against unintentional short circuits
- 4/20 mA HART® loops isolated with dual capacitors (short circuit proof)
- Double terminal to ease RS-485 cable multi-drop
- Lower cables installation and maintenance costs
- Redundant power supply
- Mounting hardware provided for single DIN Rail mounting kit

SYSTEM	I/O CARD	CARDS / BOARDS	MODULES
Tricon	3700 3700A 3721	1	-
Tricon CX	3722X	1	-

# **TERMINATION BOARD IMAGE**



# **TECHNICAL DATA**

#### General

Number of positions: 1 x HART® Multiplexer Modem 5700 series. Maximum number of channels: 32 on a single board, extendable to 256 with 8 boards and 1 HART® Multiplexer Modem 5700 series. Up to 16128 smart devices in full topology with 504 boards and 63 HART® Multiplexer Modem 5700 series.

#### Supply

24 Vdc nom (20 to 30 Vdc), reverse polarity protected, double terminal blocks for redundant power supply, with OR diodes to mix supplies. **Current consumption:** 44 mA @ 24 Vdc with full topology (8 boards) with no transmitters, typical.

Max allowed current consumption: 1.5 A (as total supply). Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup>. Protection fuse: 2 A time lag.

## I/O Card Interface

**Connection:** 2 x ELCO 8016, 56-poles receptacle connector (require male mating connector). **Cable:** system cable 4000189-5xx.

### Field Interface

Connection: by screw with terminations up to 2.5 mm<sup>2</sup>. Max supply current per channel: 50 mA (resettable fuse protected). Signal current range: 0 to 25 mA.

#### **Serial Interface**

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup>. **Protocol:** HART® over RS-485.

#### Additional TBs Interface

**Connection:** 2 x flat cable 10 poles male connectors (requires female mating connector).

Cable: flat cables CABF022, CABF023, CABF024.

#### 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

Hardware included for mounting on single DIN-rail 35 mm. Weight: about 778 g (+ 50 g plastic clips or 380 g metal clips). Location: installation in Safe Area. Dimensions: Width 235 mm, Depth 135 mm, Height 154 mm.

# **ORDERING INFORMATION**

#### **Ordering codes**

TBE-D5001-TRI-001

# Accessories

The Termination Board is already provided with plastic DIN-rail clips. Metal clips, replacement plastic clips as well as conformal coating must be ordered as a separate accessory according to the following items.

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TBE-FIX-PL-001(x2)	Plastic DIN-rail clips
TBE-FIX-MT-002(x2)	Metal DIN-rail clips
TBE-MNT-001(x2)	Factory assembly of TBE-FIX-MT-002
TBE-CTG-001	Conformal coating

CABF022	15 cm extension cable
CABF023	30 cm extension cable
CABF024	50 cm extension cable

Temp. TMP0031 Rev

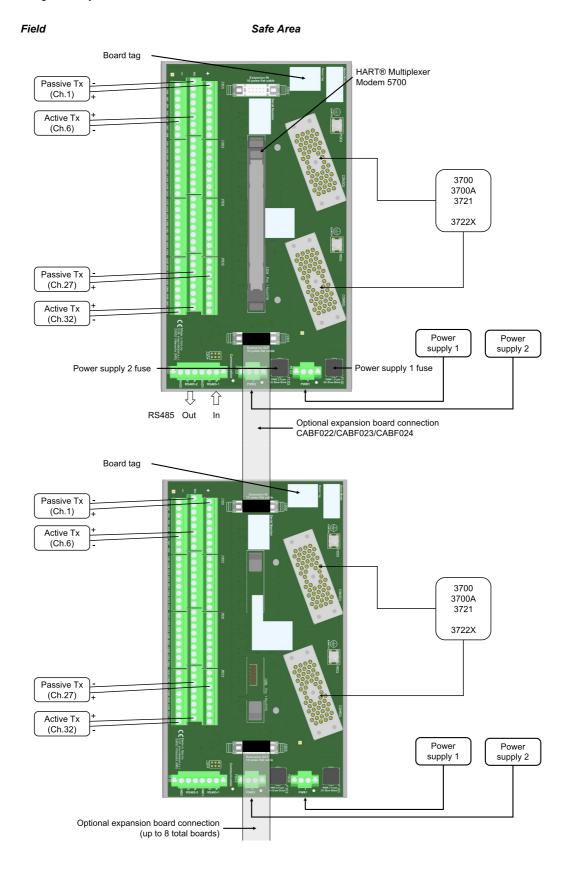
Functional Safety Management Certification:

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.

Data specified in this document are merely descriptive of the products and should be integrated with relevant technical specifications. Our products are in constant development and the information presented herein refers to the time of document issue. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. Terms & Conditions can be found at our website. For more information refer to istruction manual.

# **FUNCTION DIAGRAM**

Additional installation diagrams may be found in Instruction Manual.

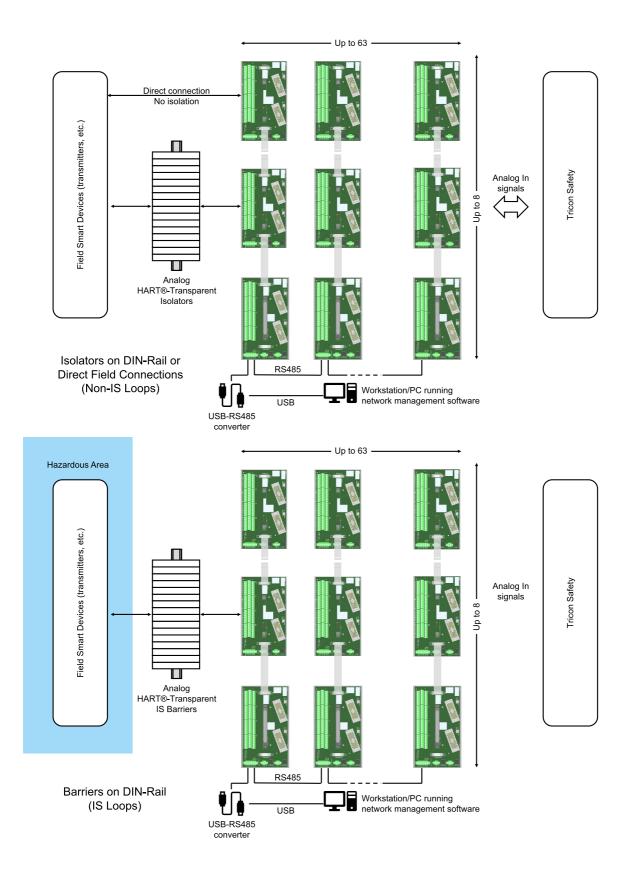


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