

Introduction

The H-System HART Multiplexer (HiD Mux2700) provides communication to 32 HART devices. A network is built by multidropping multiplexers; up to 31 multiplexers are connected to support a single network with a maximum of 992 field instruments per communication port on one RS 485 interface.

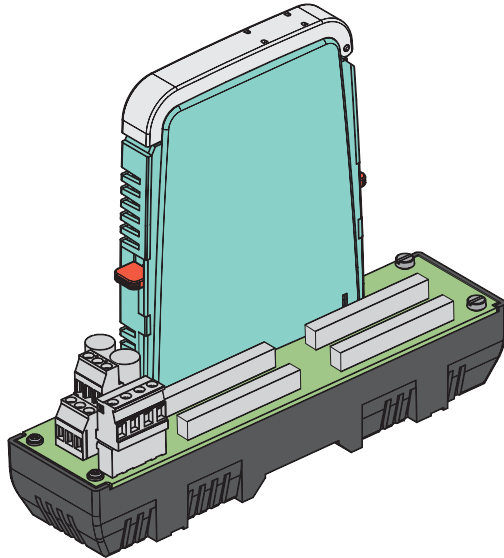


Figure 1 H-System HART Communication Board

Components

HART Multiplexer

- 18 mm housing
- HART field device inputs
- Termination Board mounted
- Dip switch settings for RS 485



Figure 2 18 mm housing (HiD Mux2700)

HART Communication Board

The HART Communication Board can interface with HART enabled H-System Termination Boards. It contains one slot to mount the 32-channel HART multiplexer type HiD Mux2700.

The HiACA-UNI-FLK34-*. cables provide easy connection between the HiD/HiC (H-System) Termination Boards and the HART Communication Board.

It offers redundantly fused, power supply connections with LED indication. Redundant RS 485 terminals are also available and can be wired in a daisy chain configuration.

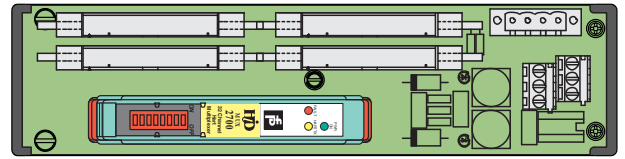


Figure 3 HART Communication Board

Topology

This figure illustrates a typical H-System solution. It contains a Termination Board, Fault Indication Board and HART Communication Board. One HART Communication Board is required for each Termination Board while one Fault Indication Board can be used for many Termination Boards.

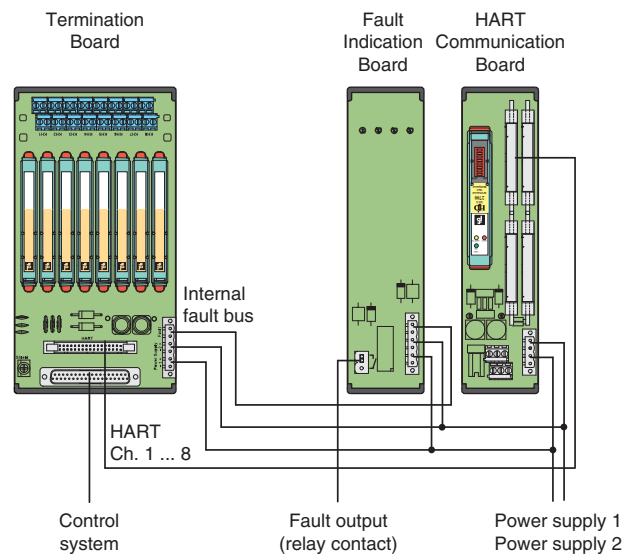


Figure 4 H-System topology

Mounting

The Termination Boards are mounted on 35 mm DIN rail. The DIN rail is centered under the Termination Board.

The H-System Termination Boards have been designed for protection category IP20 with isolated barriers installed (IP00 without modules) according to EN 60529; therefore, the boards must be appropriately protected against splashing water and contamination.

Mounting the Termination Board

- Place the Termination Board onto the DIN rail (Figure 5).
- Tighten the fastening screws (Figure 6).

The Termination Board is now properly mounted and secured.

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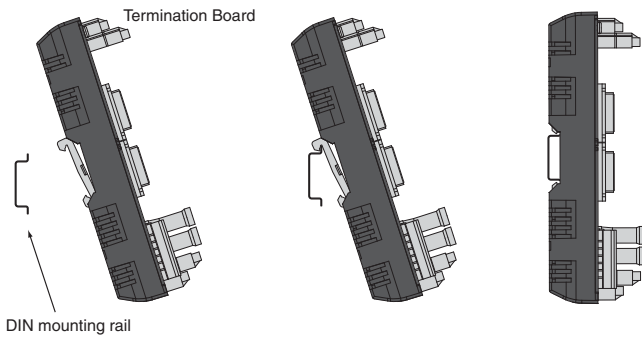


Figure 5 Proper mounting of the H-System Termination Board

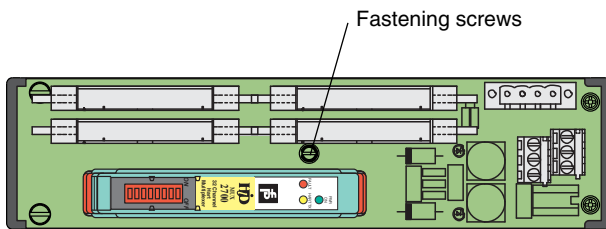


Figure 6 Top view of the H-System HART Communication Board

Mounting the module on the Termination Board

- Ensure that the red Quick Lok Bar (1) is in the upper position
- Center the pins over the contacts on the Termination Board and observe the plug orientation of the device
- Carefully press the device into the contacts
- Press the red Quick Lok Bar (1) down on either side of the device (see Figure 7)

This completes the mounting of a module.

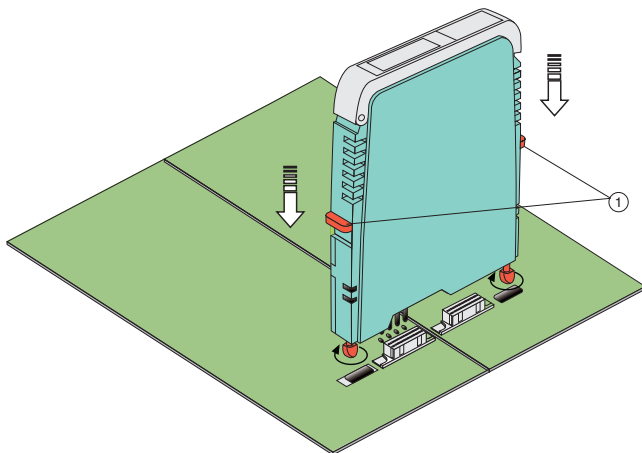


Figure 7 Proper mounting of an HiD Mux2700 module

Model number description

Module

Hi	D	Mux	2	7	0	0
		Model number 2700				
		Type Mux HART Multiplexer				
		Housing D 18 mm module				
Hi		H-System				

HART Communication Boards

HiATB	01	-	HART	-	
					Number of connectors and terminals
					2X16 with 2 connectors of 16 channels each
					4X08 with 4 connectors of 8 channels each
					Type of communication
					HART HART communication
					Number of slots
					01 1 slot

Termination Board type

HiATB for HiD accessory modules

Safety information

The corresponding data sheets, the Declaration of Conformity, the EC-Type Examination Certificate and applicable certificates (see data sheet) are an integral part of this document.

Intended use

Laws and regulations applicable to the usage or planned purpose of usage must be observed. Devices are only approved for proper usage in accordance with intended use. Improper handling will result in voiding of any warranty or manufacturer's responsibility.

These devices are used in C&I technology for the galvanic isolation of C&I signals, such as 20 mA and 10 V unit signals, and also for the adaptation and/or standardisation of signals.

The devices are not suitable for the isolation of signals in power engineering, unless this is specifically referred to in the respective data sheet.

Protection of operating personnel and the system is not ensured if the product is not used in accordance with its intended use.

Installation and commissioning

Commissioning and installation must be carried out by specially trained and qualified personnel only.

Installation of the interface devices in the safe area

The devices are constructed to satisfy the IP20 protection classification and must be protected from adverse environmental conditions such as water spray or dirt exceeding the pollution degree 2.

The devices must be installed outside the hazardous area!

Installation and commissioning of the interface devices within Zone 2/Div. 2 of the hazardous area

Only devices with the corresponding manufacturer's Declaration of Conformity or separate certificate of conformity can be installed in Zone 2/Div. 2.

The individual data sheets indicate whether these conditions are met.

For US and Canada installations, in Zone 2/Div. 2 follow the NEC and CEC wiring methods. The enclosure must be able to accept Zone 2/Div. 2 wiring methods. The referenced product certification control drawing must be observed.

For all other applications, the devices should be installed in a switch or junction box that:

- meets at least IP54 in accordance to EN 60529.
- meets to the requirements of resistance to light and resistance to impact according to EN 60079-0/ IEC 60079-0.
- meets to the requirements of thermal endurance according to EN 60079-15/IEC 60079-15.
- must not cause ignition danger by electrostatic charge during intended use, maintenance and cleaning.

The EC-Type Examination Certificates, standard certificates/approvals or the manufacturer's Declaration of Conformity should be observed. It is especially important to observe the "special conditions" if these are included in the certificates.

Repair and maintenance

The transfer characteristics of the devices remain stable over long periods of time. This eliminates the need for regular adjustment. Maintenance is not required.

Fault elimination

No changes can be made to devices that are operated in hazardous areas. Repairs on the device are not allowed.

Isolation coordinates for installations for galvanic isolation according to EN 50178 and EN 61140

The devices of the K-System are electronic equipment for use in secluded electrical operating sites where only skilled personnel or electrically instructed personnel will have admission or access.

The devices are assessed for pollution degree 2 and overvoltage category II according to EN 50178.

For additional details, see data sheets.

Technical data

Electrical data

Power supply (modules)

24 V DC -15 %, +25 %, (20.4 V DC to 30 V DC)

Each module is protected internally. The Termination Boards have redundant power supply connections with fuses that can be replaced by the customer.

Mechanical data

Location

Mounting outside hazardous areas possible as well as in Zone 2/Div. 2 where a manufacturer's Declaration of Conformity exists.

Protection degree

- Termination Boards: IP20 with modules plugged in (IP00 without modules)
- Modules: IP30

Mass

Termination Boards:

- HiATB01 approx. 150 g

Modules:

- HiD Mux2700 approx. 140 g

Material

Modules: Polycarbonate

Termination Boards: Polycarbonate, fiber glass reinforced

Dimensions

Termination Boards (height inclusive module assembly):

- HiATB01: 50 x 190 x 200 mm

Modules:

- HiD module: 18 x 106 x 130 mm

Housing drawings please refer to the appendix.

Labeling

A plastic label holder is available on the front of the module:

- HiD module: 35 x 10.5 mm

A large label carrier kit HiALC-... for the Termination Boards is available as an option.

Fire protection class

Housing: V2 according to UL 94 standard. (Unless stated otherwise all details relate to the reference conditions.)

Ambient conditions

Ambient temperature:

-20 °C to 60 °C, (273 K to 333 K)

Storage temperature:

-40 °C to 70 °C, (253 K to 343 K)

Relative humidity:

max. 95 % no moisture condensation

Reference conditions

- Temperature: 23 °C (296 K)
- Relative humidity: 50 %
- Supply voltage: 24 V DC
- Working resistance, where applicable: 250 Ω
- Full scale value: 20 mA

Conformity with standards and directives

General

- EMC acc. to NAMUR NE21 and EN 61326
- LEDs acc. to NAMUR NE44
- Software acc. to NAMUR NE53