

H-System

Isolated Barriers and Termination Boards for Triconex Tricon CX

Brief Instructions



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1 Introduction

1.1 Content of this Document

This document contains control-system specific information about:

- Connection options
- Status indications
- Product identification
- Dimensions



Note

See system manual for further information.



Note

This document does not substitute the instruction manual.



Note

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.



Note

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

1.2 Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Prior to using the product make yourself familiar with it. Read the document carefully.

2 Product Specifications

2.1 Function

Isolated barriers are used to protect intrinsically safe circuits in explosive areas. In addition to the required current, voltage and power limitation, the isolated barriers have a galvanic isolation between the field circuit and the controller.

The H-System isolated barriers are mounted on termination boards. Pre-wiring is possible on termination boards. To close the signal circuit, the isolated barriers are simply plugged in. The isolated barriers can be replaced during live operation when the wiring is connected.

Generic and control-system specific termination boards are available in the H-System. Termination boards can be adapted to specific input/output requirements. These requirements can be implemented via

- Various connectors to the controller
- Various terminals to the field device
- A large selection of isolated barriers

2.2 Isolated Barriers

H-System isolated barriers cover all functions and the interoperability of the H-System.

The pin assignment and terminal designations are consistent for all termination boards. Each H-System isolated barrier can therefore be mounted in each termination board slot.

The termination board can be coded together with the isolated barriers.

This prevents the isolated barriers being mixed up on the termination board.

The safety-relevant data for the connected field devices is backed up.

Note

See system manual for further information.



2.3 Termination Boards

Termination boards form the wiring level for field and control signals. The isolated barriers are mounted on termination boards. The isolated barriers are connected with the field and control side via the termination boards. Once the isolated barrier is mounted, the signal circuit between the field and control side is closed.

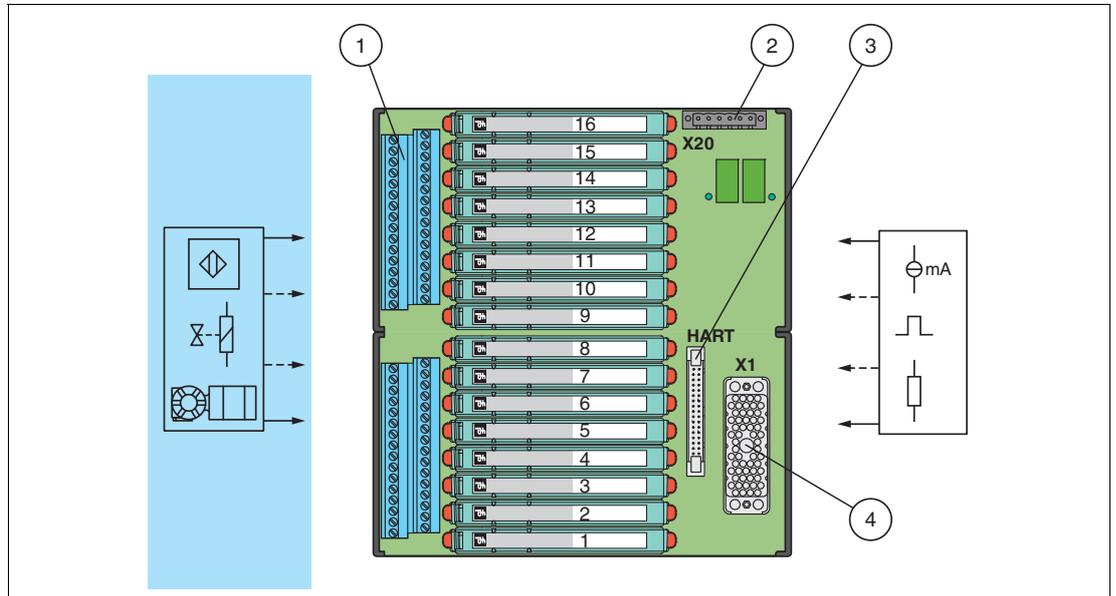


Figure 2.1 Connection example termination board with 16 slots

- 1 Field side connection
- 2 Connection power supply and fault indication output
- 3 HART communication connection, if available
- 4 Control side connection

Features depending on version

- With 16 slots
- For redundant and fused power supply
- For fault monitoring and diagnostics
- HART communication

2.3.1 Connection Options

A variety of termination boards is available with different methods of connecting to the field and control side. Please refer to the documentation for the respective device for the specific connection layout.

Connecting the Field Side

The field devices can be connected to the termination board with the following connection option:

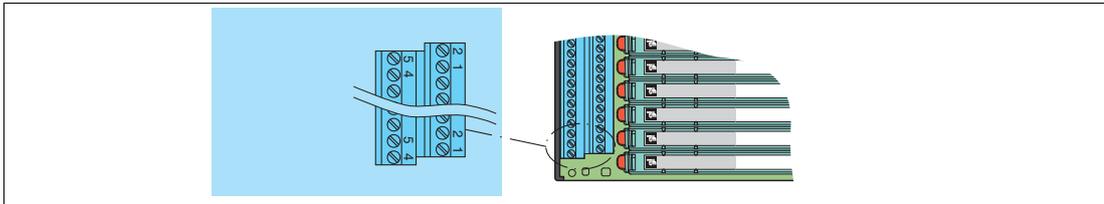


Figure 2.2 Removable screw terminals

Connecting the Power Supply and Fault Indication Output

Isolated barriers

The isolated barriers are supplied via the termination board. The isolated barriers are therefore attached to the termination board.

Termination boards

The termination boards are supplied via removable screw terminals.

The supply voltage range depends on

- The values used for the isolated barriers
- The voltage drop of the decoupling diodes on the termination board

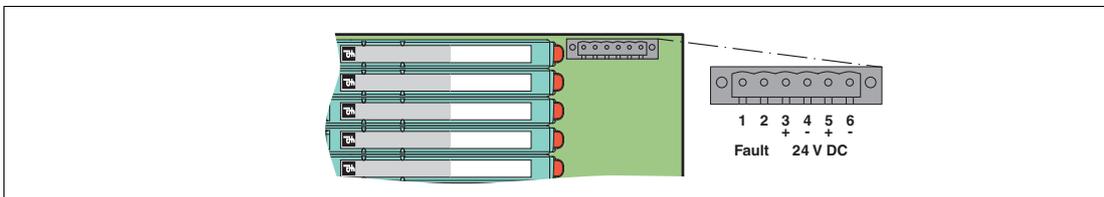


Figure 2.3 Connection of power supply and fault indication output via removable screw terminals

Connecting the Control Side

The termination board on the control side can be connected via the following connection options:

Connection via ELCO connector

- for 32-channel AI cards 3722X and 3723X
- for 32-channel DI card 3506X
- for 32-channel DO card 3626X

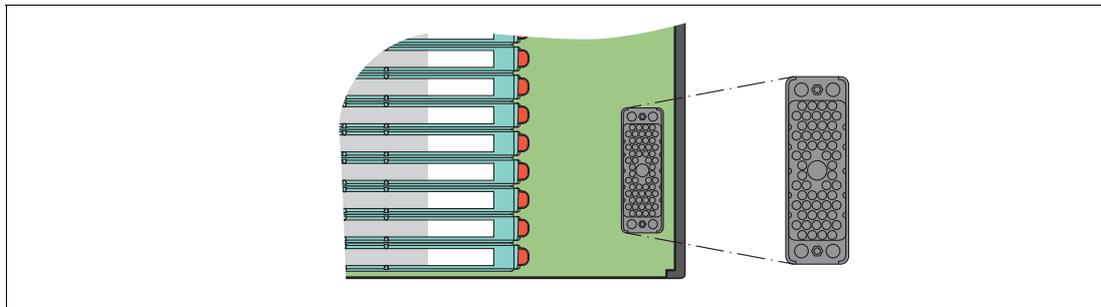


Figure 2.4 ELCO connector, 56-pin

Connection via Sub-D connector

- for 16-channel Universal I/O card 3902(A)X
- for 16-channel AO card 3809(A)X

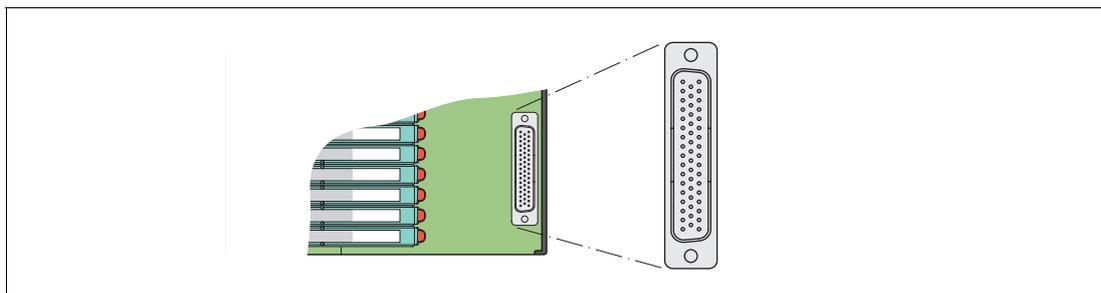


Figure 2.5 Sub-D connector, 50-pin

In the case of a signal splitter application, you can connect the termination board via screw terminals.

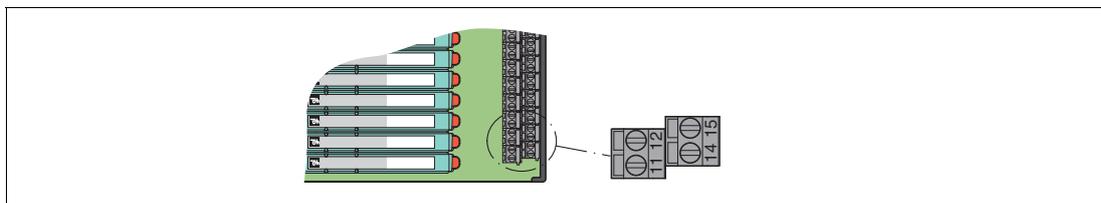


Figure 2.6 Connection via screw terminals

Establishing the HART Communication

Establish the HART communication via HART connector and HART multiplexer.

HART connector

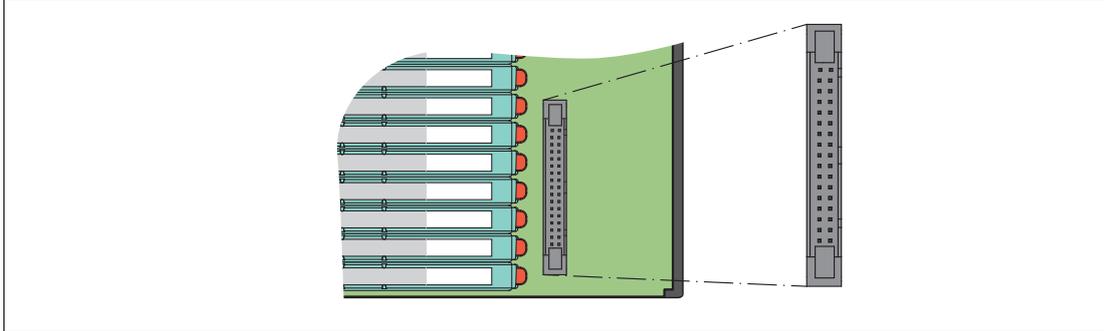


Figure 2.7 HART connector, recommended cable: HiACA-UNIFLK34- FLK34-*M*

HART multiplexer

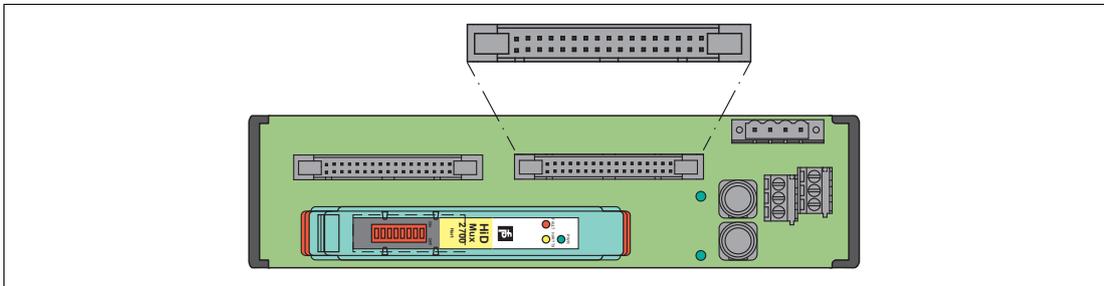


Figure 2.8 HART multiplexer connection



Note

See corresponding datasheets for further information.



Note

See system manual for further information.

2.3.2 Status Indicators of Termination Boards

LEDs are often used on termination boards to indicate different statuses (e. g. for power supply, device failure, status messages). Standard LED colors are assigned to the status display according to NAMUR NE 44.

LED	Display function	Display	Meaning
Green LED PWR1	Power supply I	On	Power supply OK
		Off	No power
Green LED PWR2	Power supply II	On	Power supply OK
		Off	No power

Table 2.1 Meaning of status indicators

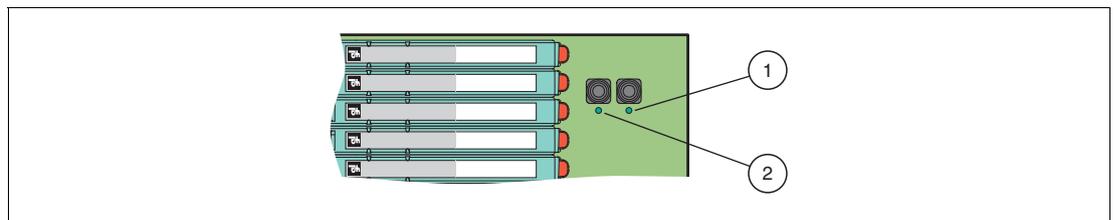


Figure 2.9 Example status indicators

- 1** Green LED **PWR1**
Status indicator power supply I
- 2** Green LED **PWR2**
Status indicator power supply II



Note

See system manual for further information.

3 Technical Specifications

3.1 Model Number Description Termination Boards

Hi	C	TB	16	-	TRX	-	R	A	-	PL	-			-	Y
															System
															Hi H-System
															Housing type
															C for HiC devices
															Termination board
															TB
															Number of slots
															16 16 slots
															Name of the product family
															TRX Triconex Tricon CX
															Power supply
															R Redundant power supply
															Fault monitoring
															A All faults monitored
															Channel configuration
															C Consecutive channel configuration
															S Channel configuration suitable for signal splitter
															Field side connection
															PL Removable screw terminals
															Signal type
															AI Analog input
															DI Digital input
															DO Digital output
															IO Universal input/output
															Number of channels
															16 16 channels
															32 32 channels
															Versions
															Y



Note

See system manual for further information.

3.2 Dimensions

3.2.1 Housing Types for Termination Boards

Termination Board for 16 Modules

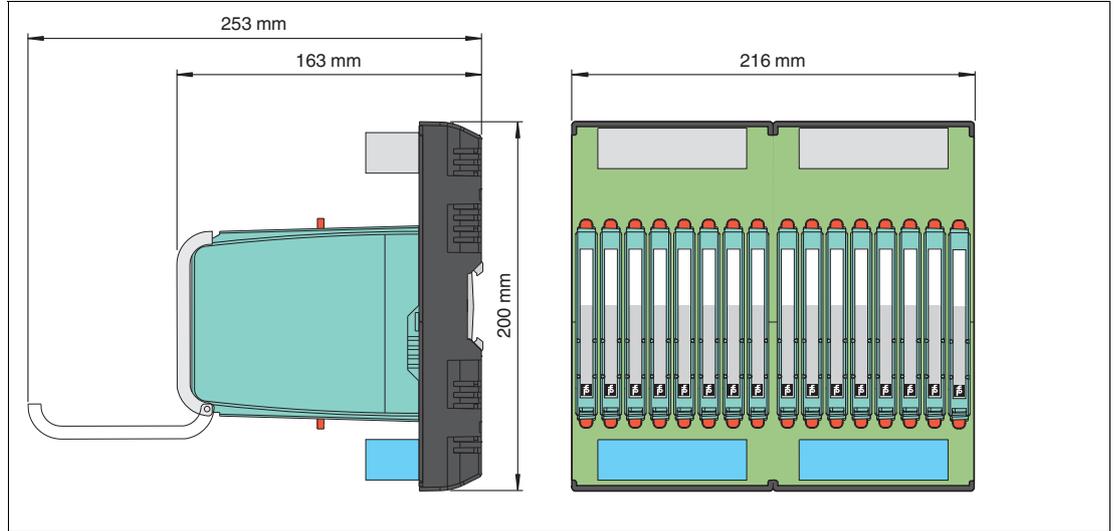


Figure 3.1 Dimensions (W x H x D): 216 x 200 x 163 mm (8.5 x 7.9 x 6.42 inch), depth including module assembly

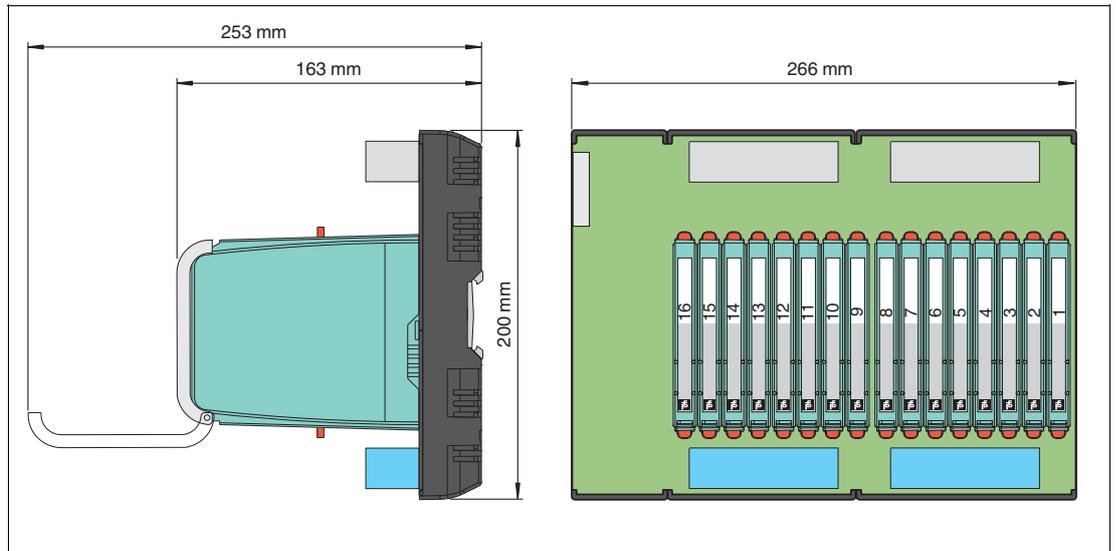


Figure 3.2 Dimensions (W x H x D): 266 x 200 x 163 mm (10.5 x 7.9 x 6.42 inch), depth including module assembly



Note

See system manual for further information.

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Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
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- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

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- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
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- Displays and Signal Processing
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