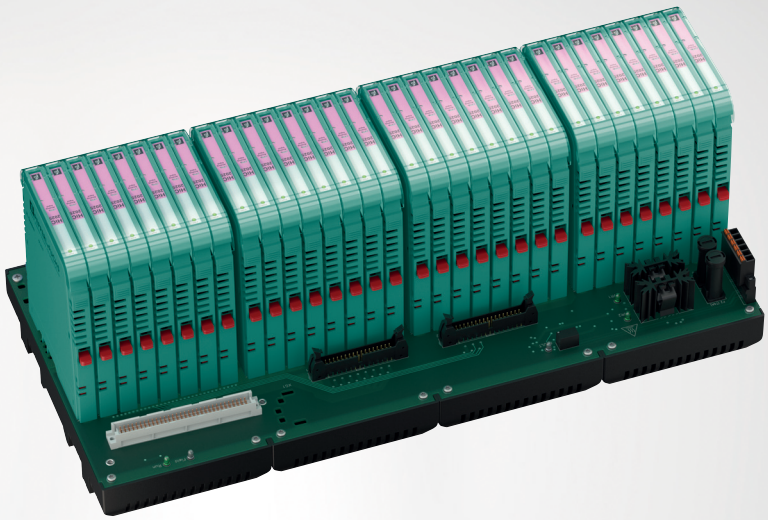
H-System

Isolated Barriers and Termination Boards for HIMA HIMax

Brief Instructions



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Contents

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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 connecting plugs 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.

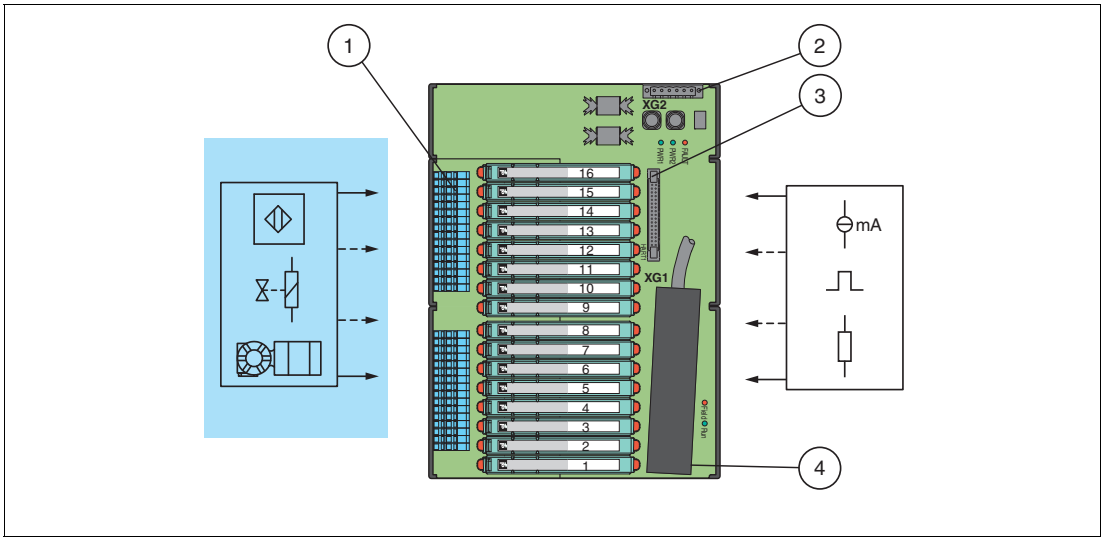

Figure 2.1 Connection example termination board with 16 slots

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 or 32 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 are connected to the termination board via spring terminals.

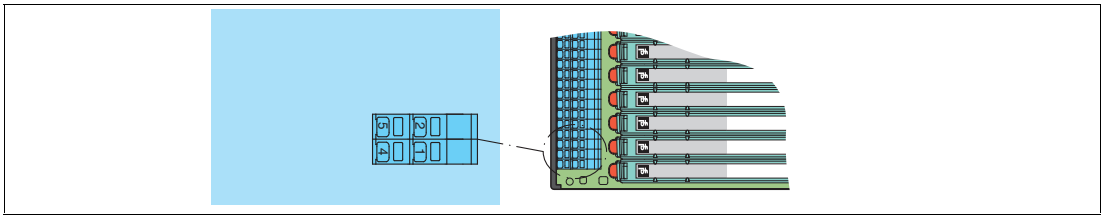

Figure 2.2 Connection via field-side spring terminals

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 pluggable spring 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

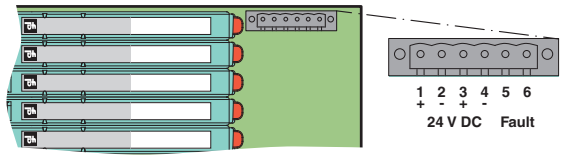

Figure 2.3 Connection of power supply and fault indication output via pluggable spring terminals

Connecting the Control Side

The termination board is connected on the control side via the HIMA system connector.

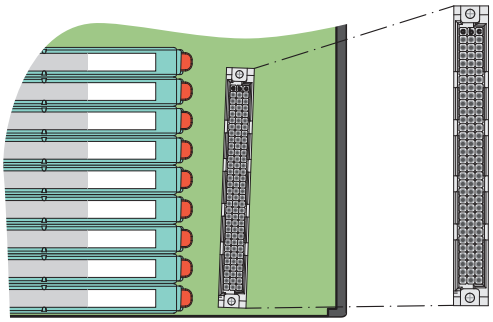

Figure 2.4 Connection via HIMA system connector, 96-pin

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

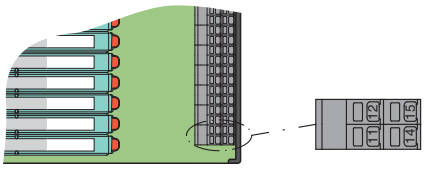

Figure 2.5 Connection via spring terminals

Establishing the HART Communication

Establish the HART communication via HART connector and HART multiplexer.

HART connector

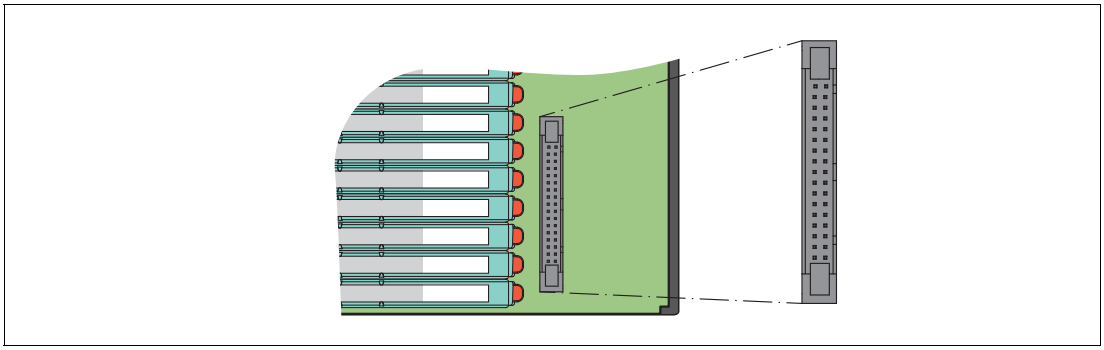

Figure 2.6 HART connector, recommended cable: HiACA-UNIFLK34- FLK34-*M*

HART multiplexer

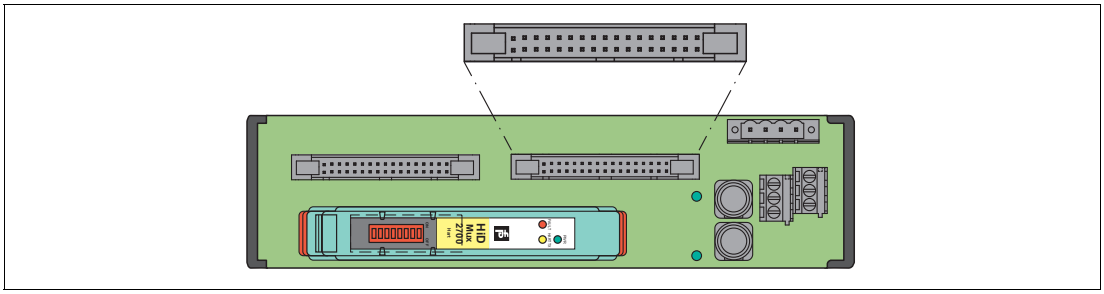

Figure 2.7 HART multiplexer connection

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
Red LED **FAULT**	Power supply failure	On	Power supply failure
	Device fault	Flashing	Module fault, module failure
Green LED **Run**	Connection status	On	The HIMax I/O module is supplied with power and is connected to the termination board (FTA) via a system cable.
Red LED **Field**	Connection failure	On	The HIMax I/O module detects faults in the connection between HIMax I/O module and termination board (FTA).

Table 2.1 Meaning of status indicators

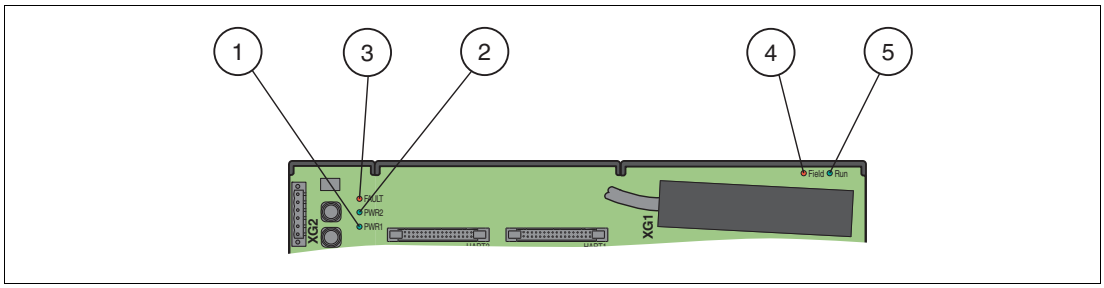

Figure 2.8 Example status indicators

1 Green LED **PWR1**
Status indicator power supply I

2 Green LED **PWR2**
Status indicator power supply II

3 Red LED **FAULT**
Module fault, module failure, power supply failure

4 Red LED **Field**
Connection failure

5 Green LED **Run**
Status indicator connection

Note

See system manual for further information.

3 Technical Specifications

3.1 Model Number Description Termination Boards

Hi	C	TB		-	HIM	-	R	A		-	SP	-		-	Y

Versions
Y

Signal type, HIMax cards
AI320X X-AI 32 01 or X-AI 32 02
AO1601 X-AO 16 01
DI3202 X-DI 32 02
DI320X X-DI 32 01 or X-DI 32 04
DO3201 X-DO 32 01

Field side connection
SP Spring terminals

Channel configuration
C Consecutive channel configuration
S Channel configuration suitable for signal splitter

Fault monitoring
A All faults monitored

Power supply
R Redundant power supply

Name of the product family
HIM HIMA, HIMax

Number of positions
16 16 positions
32 32 positions

Termination board
TB

Housing type
C for HiC devices

System
Hi H-System

Note

See system manual for further information.

3.2 Dimensions

3.2.1 Housing Types Termination Boards

Termination Board for 16 Modules

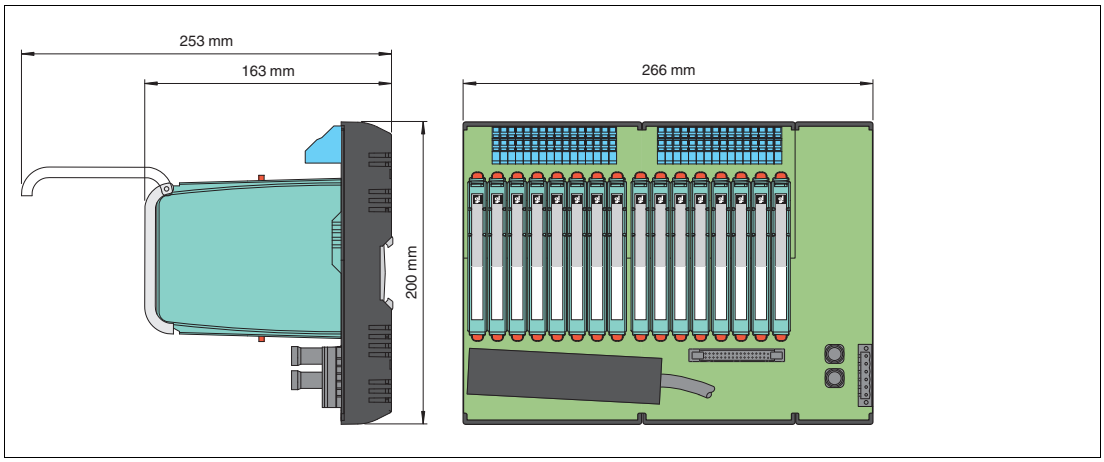

Figure 3.1 Dimensions (W x H x D): 266 x 200 x 163 mm (10.5 x 7.9 x 6.42 inch), depth including module assembly

Termination Board for 32 modules

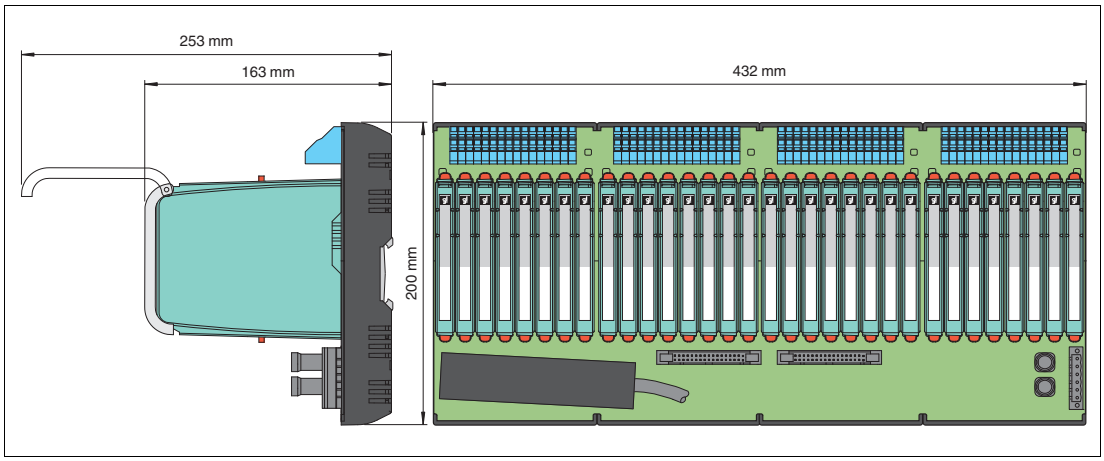

Figure 3.2 Dimensions (W x H x D): 432 x 200 x 163 mm (17 x 7.9 x 6.42 inch), depth including module assembly

Note

See system manual for further information.

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Explosion Protection

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- 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

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
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