

MANUAL

Viator® USB HART Interface HM-PF-USB-010031



With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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1 Introduction

1.1 Content of this Document

This document contains information that you need in order to use your product throughout the applicable stages of the product life cycle. These can include the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal



Note

This document does not substitute the software manual and/or instruction manual.



Note

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

The documentation consists of the following parts:

- Present document
- Instruction manual
- Datasheet

Additionally, the following parts may belong to the documentation, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- Additional documents

1.2 Manufacturer

Pepperl+Fuchs Group
Lilienthalstraße 200, 68307 Mannheim, Germany

Internet: www.pepperl-fuchs.com

1.3 Target Group, Personnel

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

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismantling 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.

1.4 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:



Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols



Note

This symbol brings important information to your attention.



Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2 Overview

The Viator® USB HART Interface allows you to communicate with HART field devices using a personal computer, the computer's USB port, and HART communication software.

The interface operates on low power, is isolated, and is fully HART compliant. It draws power from the USB port and requires no external power supply. The interface operates on as little as 11 mA of USB supplied power, well within the capabilities of all PCs. The interface adheres to the USB 2.0 standard.

The Viator USB HART Interface Software Driver included on the Pepperl+Fuchs website (<http://www.pepperl-fuchs.com/cgi-bin/db/doci.pl?ShowProductDocByPartNo=70133892&LanId=ENU>) provides the link between the USB port and the HART communication software by generating a virtual communications port.

The interface is enclosed in a small, rugged polycarbonate housing, suitable for industrial environments. It connects to your computer with a short integrated cable that terminates in a USB A connector. The interface connects to field devices with an integrated 6-foot cable that terminates in 2 test clips.

For the most recent version of this document, visit <https://www.pepperl-fuchs.com/>.

3 Directive Conformity

| Europe | |
|-----------------------------|---------------------------------------|
| Directive 2014/30/EU | EN 61326-1:2013 EN 62368-1:2014-08 |
| Directive 2011/65/EU (RoHS) | EN IEC 63000:2018 |

4 Technical Data

| Supply | |
|---------------|--|
| Input current | 11 mA at 5 V |
| Power supply | Powered by USB port, No external power required |

| Interface | |
|----------------|----------|
| Interface type | USB port |

| Output | |
|--------|---|
| Signal | 0.5 ± 0.1 Vpp trapezoidal wave at 1200/2200 Hz, 24 VDC at 40 mA to device |

| Galvanic isolation | |
|--------------------|-----------|
| Output/interface | 1500 V DC |

System requirements

| | |
|------------------|--|
| Operating system | 32-bit XP, 32-bit Vista, 32-bit and 64-bit Windows® 7, and Windows® 10 |
|------------------|--|

Ambient conditions

| | |
|-----------------------|-------------------------------|
| Operating temperature | -20 ... 50 °C (-4 ... 122 °F) |
| Storage temperature | -20 ... 60 °C (-4 ... 140 °F) |
| Relative humidity | 0 ... 95 % non-condensing |

Mechanical specifications

| | |
|----------------------|--|
| Housing length | 75 mm |
| Housing width | 33 mm |
| Housing height | 15 mm |
| Degree of protection | IP20 |
| Connection | USB (type A) Connector, red and black test clips |

| Mechanical specifications | |
|---------------------------|--|
| Material | Polycarbonate |
| Dimensions | 75 mm x 33 mm x 15 mm |
| Cable length | 1.8 m 2-strand wire terminating in 2 test clips, 15.2-cm cable terminating in 1 USB type A connector |

| Supplementary information | |
|---------------------------|---|
| Supplementary information | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com . |

4.1 USB Pin Connections

| Pin No. | Type | Description |
|---------|---------|---|
| 1 | VBUS | 5 V |
| 2 | Data D- | Differential full speed USB data at 12 MHz, normally low |
| 3 | Data D+ | Differential full speed USB data at 12 MHz, normally high |
| 4 | GND | Ground |

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5 Getting Started

5.1 Hardware and Software Requirements

- Viator USB HART Interface, HM-PF-USB-010031
- Computer with one or more USB ports
- Windows® operating system (32-bit XP, 32-bit Vista, 32-bit and 64-bit Windows® 7, and Windows® 10)
- HART application software for communication with HART field devices



Note

HART communication software must be capable of recognizing virtual COM ports. DOS and Windows NT-based applications do not recognize USB virtual COM ports and are therefore not supported.

5.2 Check Your Viator USB HART Interface Package

Your interface package contains the Viator USB HART Interface.



Note

The Viator software can be downloaded from the Viator USB HART Interface product page (<http://www.pepperl-fuchs.com/cgi-bin/db/doci.pl?ShowProductDocByPartNo=70133892&LangId=ENU>).

5.3 Connecting to a HART Field Device

The interface has an integrated USB cable with a male A plug for connection to the computer, and it has an integrated 6-foot cable with 2 test clips.

The interface connection to the HART network is transformer isolated and polarity insensitive. Transformer isolation allows you to connect the interface across the load resistor or across the HART device. Polarity insensitivity means that you may attach either test clip to either side of the HART device or load resistor.

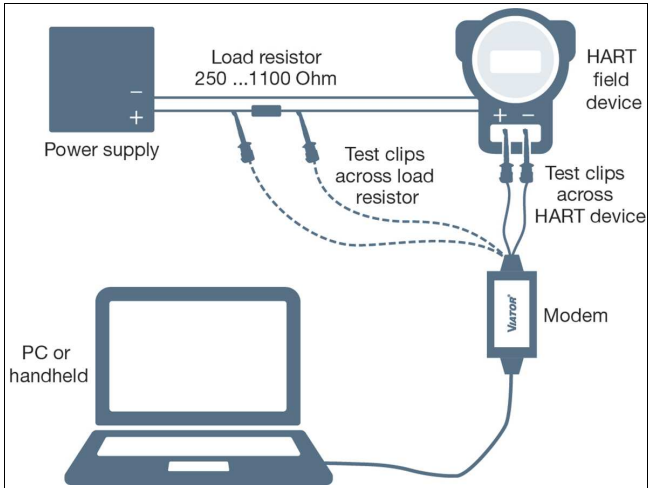


Figure 5.1

► Connect the test clips

1. across the HART field device or
2. across the load resistor.



Caution!

Do not connect the Viator interface across the power supply!

This will not allow communication with the HART field device.

5.4 Standby and Hibernate Power Saving Modes

The Viator USB Interface driver supports all portable computer power saving modes. However, interruption of HART communication software by a standby or hibernate mode may necessitate restarting HART communication software to continue HART communications.

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- 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
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepper+Fuchs Quality
Download our latest policy here:

www.pepperl-fuchs.com/quality

