

VCI10-UH

HART® USB COMMUNICATION INTERFACE



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HART® é uma marca registrada da HART Communication Foundation.

NOTE

We have reviewed this manual with great care to maintain compliance with the hardware and software versions described herein. However, due to the dynamic development and version upgrades, the possibility of technical deviations cannot be ruled out. We cannot accept any responsibility for the full compliance of this material.

Vivace reserves the right to, without notice, make modifications and improvements of any kind in its products without incurring in any circumstances, the obligation to make those same modifications to products sold previously.

The information in this manual is frequently updated. Therefore, when using a new product, please check the latest version of the manual on the Internet through our website www.vivaceinstruments.com, where it can be downloaded.

You customer is very important for us. We will always be grateful for any suggestions for improvements as well as new ideas, which can be sent to the e-mail: contato@vivaceinstruments.com preferably with the title "Suggestions".

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WARNING

It is extremely important that all the safety instructions, installation and operation in this manual are followed faithfully. The manufacturer is not liable for damage or malfunction caused by improper use of this equipment.

It is recommended to strictly following the rules and good practice relating to installation, ensuring correct grounding, noise insulation and good quality cables and connections in order to provide the best performance and durability to the equipment.

Special attention must be considered in relation to installations in hazardous areas, where applicable.

SAFETY PROCEDURES

- *Appoint only skilled people, trained with process and equipment;*
- *Install equipment only in operation compatible areas, with the proper connections and protections;*
- *Use proper safety equipment for any handling device in field;*
- *Turn area power off before equipment installation.*

SYMBOLOLOGY



Caution - indicates risk or error source



Important Information



General or Specific Risk



Electric Shock Danger

GENERAL INFORMATION



Vivace Process Instruments ensures the operation of this equipment, according to the descriptions contained in its manual, as well as technical characteristics, not guaranteeing its full performance in particular applications.



The operator of this equipment is responsible for observing all aspects of safety and prevention of accidents applicable during the execution of the tasks in this manual.



Failures that might occur in the system, causing damage to property or injury to persons, shall additionally be prevented by external means to a safe outlet for the system.



This equipment must be used only for the purposes and methods proposed in this manual.

1 EQUIPMENT DESCRIPTION

Vivace **VCI10-UH** communication interface provides connection of any HART® device based on the standard FSK frequency modulation (frequency-shift keying) with personal computers (PC), via USB (universal serial bus) port.

VCI10-UH does not require external power, since it uses power from PC USB port directly and enables user to power HART® device when in stand-alone mode, providing voltage or current supply (for conventional transmitters or valve positioners, respectively). The interface has a built-in internal 250 Ohm load to help communication with transmitter HART® modem.

Compatible with all HART® devices, VCI10-UH enables manufacturer interoperability for devices and systems, working with any configuration software which uses USB port for communication with HART® network.



Attention! DTM files are distributed by device manufacturers. Vivace only provides DTM files for Vivace equipments

1.1. IDENTIFICATION

VCI10-UH communication interface has a front label indicating the functions of available configuration switches: Pwr (power supply for HART® device) and Out (voltage or current output).

This label also has identification of model, manufacturer, communication protocol and device serial number.

Three LEDs indicate if power and communication are present on the interface.

User must also pay attention on connection polarity to device. For this reason, positive pole is represented by the red connector while negative pole is represented by the black connector.

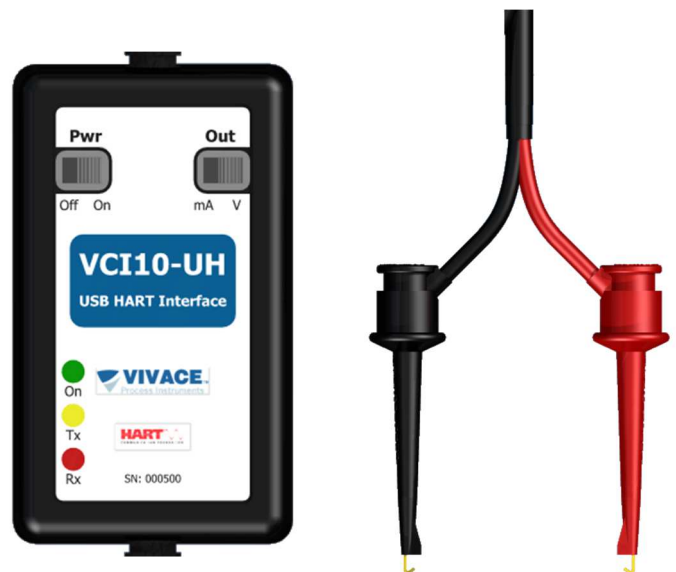


Figure 1.1 - VCI10-UH Identification.

1.2. TECHNICAL AND PHYSICAL SPECIFICATIONS

The main technical and physical characteristics of VCI10-UH are listed below on Table 1.1. Those are important references which must be evaluate before product usage.

CARACTERÍSTICAS	
Output Voltage	24 Vdc
Output Current	3.9 mA
Communication Load	250 Ohm
Physical Communication	FSK HART®
Connection	USB Type-A

Table 1.1 – Technical and physical characteristics of VCI10-UH.



Attention! This equipment is not certified for classified areas!

1.3. HOUSING DIMENSION

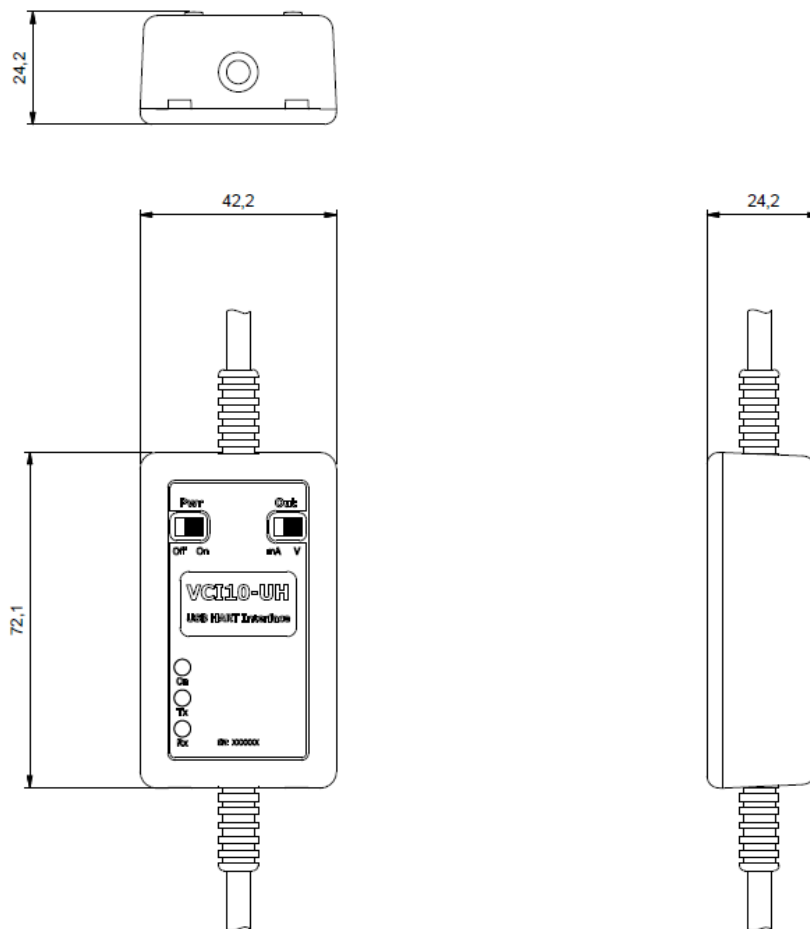


Figure 1.2 – VCI10-UH housing dimensions.

2 CONFIGURATION

2.1. CONNECTION

VC110-UH connection is defined by two switches located on its frontal side: **Pwr** and **Out**. Pwr switch configures the interface to power supply the device it is attached to, when switched to "On". When switched to "Off", device must be powered externally. Figures 2.1 and 2.2 show both connection configurations, with Pwr switched to "Off" and to "On", respectively.



ATTENTION!

Interface must be connected to one device at a time when working as a power supply. Do not connect it on *multidrop* networks (several devices on the same bus).



Figure 2.1 - Interface configured to not power device.



Figure 2.2 - Interface configuration to power device.

Note that when using the configuration to power the device externally, the connection of a 250 Ohm serial communication load is necessary (figure 2.1).

The second switch on the interface (Out) is only considered when Pwr is switched to "On". Out switch defines if power will be supplied as voltage (24 Vdc, position "V", for transmitters) or current (3.9 mA, position "mA", for valve positioners), depending on device type.

2.2. CONNECTING TO COMPUTER

On recent versions of operational systems, the interface driver will be installed automatically, since computer is connected to the internet. In order to execute the manual installation, user must download the driver file on Vivace website (www.vivaceinstruments.com.br).

i After driver installation (Figure 2.3), operational system will allocate a virtual COM port to communicate with USB port. To identify the virtual COM port associated to the interface, user must access "Ports (COM and LPT)" directory inside "Device Manager" on operational system, as shown on Figure 2.4.



Figure 2.3 – Installing interface driver.

User must use this port for HART® communication on software configuration using VC110-UH.

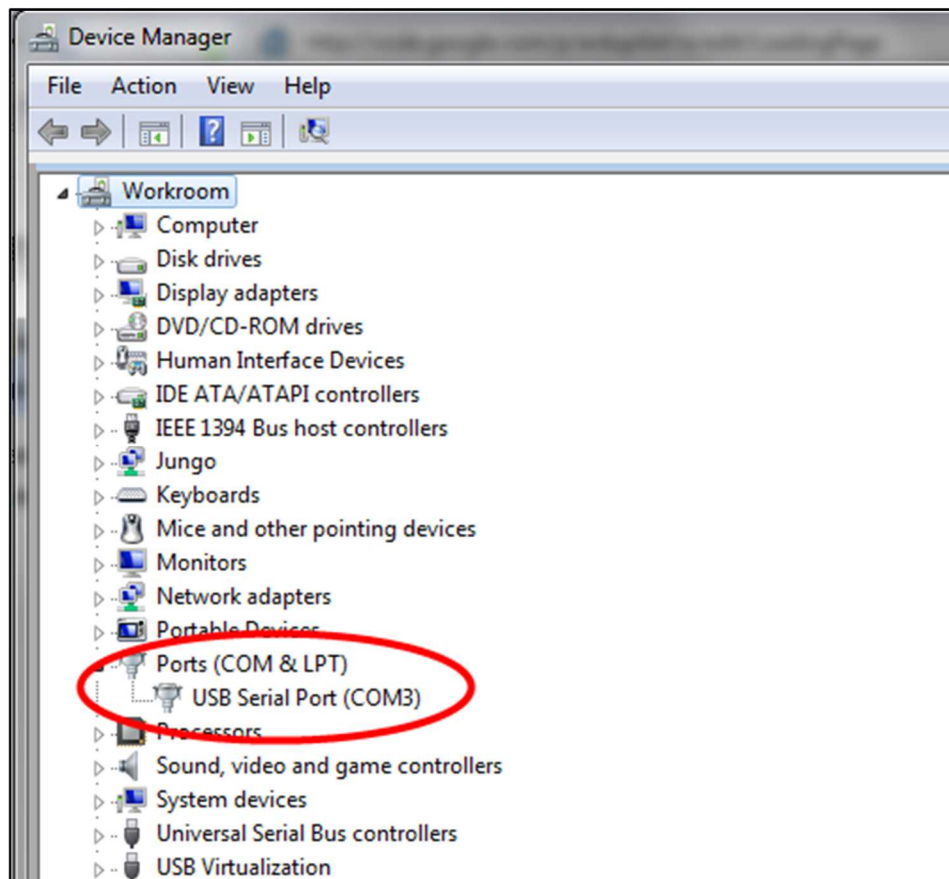


Figure 2.4 – Virtual COM port created for VC110-UH.

3 MAINTENANCE

3.1. ORDERING CODE

VCI10 *Communication Interface*

Communication Type	U	USB
	A	ANDROID
	B	BLUETOOTH

Communication Protocol	H	HART
	P	PROFIBUS

Configuration Accessory	0	NO ACCESSORY
	1	REGULAR TABLET
	2	INDUSTRIAL TABLET

Ordering Code Example:

VCI10	-	U		H	-	0
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4 WARRANTY

4.1. GENERAL CONDITIONS

Vivace ensures its equipments from any defect on manufacturing or component quality. Problems caused by misuse, improper installation or exposure to extreme conditions are not covered by this warranty.

The user can repair some equipments by replacing spare parts, but it is strongly recommended to forward it to *Vivace* for diagnosis and maintenance in cases of doubt or impossibility of correction by the user.


For details about the product warranty, see the general term warranty on Vivace website: www.vivaceinstruments.com.br.

4.2. WARRANTY PERIOD

Vivace ensures the ideal operating conditions of their equipment by a period of two years, with full customer support regarding to installation, operation and maintenance for the best use of the equipment.

It is important to note that even after warranty period expires, *Vivace* assistance team is ready to assist customer with the best support service, offering the best solutions for the installed system.

APPENDIX

		FSAT Technical Analysis Solicitation Form	
		Company:	Unit/Department:
Standard Warranty: ()Yes ()No		Extended Warranty: ()Yes ()No	
COMMERCIAL CONTACT			
Complete Name:		Position:	
Phone and Extension:		Fax:	
e-mail:			
TECHNICAL CONTACT			
Complete Name:		Position:	
Phone and Extension:		Fax:	
e-mail:			
EQUIPMENT DATA			
Model:		Serial Num.:	
PROCESS INFORMATION			
Environment Temperature (°C)		Work Temperature (°C)	
Min:	Max:	Min:	Max:
Operation Time:		Fail Date:	
FAIL DESCRIPTION: Here user should describe in detail the observed behaviour of product, frequency of fail occurrence and repeatability. Also, should inform operational system version and a quick description of control system architecture where the equipment was installed.			
ADDITIONAL OBSERVATION:			

