



**Operating Instructions
for
HART[®]-USB Modem**

Model: HARTCOM-x



We don't accept warranty and liability claims neither upon this publication nor in case of improper treatment of the described products.

The document may contain technical inaccuracies and typographical errors. The content will be revised on a regular basis. These changes will be implemented in later versions. The described products can be improved and changed at any time without prior notice.

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2. Note

2.1 General

Before unpacking and commissioning the device, the operating instructions and the “General Safety Instructions” document must be read and followed carefully. The general safety instructions, the operating instructions, the data sheet as well as approvals and further information can be downloaded via the QR code on the device or under the respective product on www.kobold.com.

Due to technical changes, the device documentation available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form.



Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com





The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the device should be used only when the entire machine fulfils the EU machinery directive.

2.2 Hazard warnings

The following instructions are intended to ensure your personal safety and to prevent damage to the product described or connected devices. Safety instructions and warnings to prevent danger to the life and health of users or maintenance personnel, or to prevent damage to property, are highlighted in this documentation using the symbols defined here. *The symbols and terms used have the following meaning in the documentation itself:*

Symbol	Explanation	Symbol	Explanation
 Note	Is important information about the product, the handling of the product or the respective part of the documentation to which particular attention should be drawn.	 Caution	Means that minor personal injury or minor property damage may occur if proper precautions are not taken.

Symbol	Explanation	Symbol	Explanation
 Warning	Indicates that serious personal injury or substantial property damage may occur if proper precautions are not taken.	 Danger	Means that death can occur if proper precautions are not taken.
 Warning	Attention: Hot surface!	 Warning	Warning: Dangerous electrical voltage

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition. Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- HART®-USB Modem model: HARTCOM-x

4. Regulation Use

Any use of the device, which exceeds the manufacturer's specification, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Application

The HARTCOM modem establishes communication between HART®-capable field devices and a process controller computer. The HARTCOM modems are applicable for all HART®-capable transmitters that use standard HART® communication.

Depending on the design the following versions can be ordered:

- HART®/USB modem, normal type; (order code: HARTCOM-0)
- HART®/USB modem with power supply for transmitter and switchable HART® terminal resistor; (order code: HARTCOM-1)
- The modem ensures galvanic isolation for the transmitter from the process controller system and it is powered by a USB interface or a USB power bank.

6. Communication Options

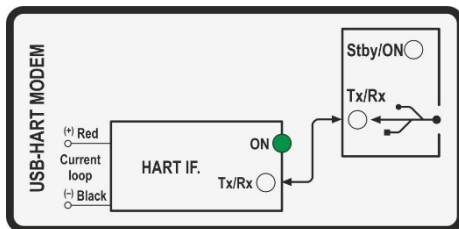
The modem meets the HART® communication standards and applicable for all HART®-capable transmitters that use standard HART® communication. To enable communication through the USB 1.1. or USB 2.0. port of the PC a driver program (FT 232 RL) is needed, which can be downloaded from www.kobold.com product page.

7. Wiring, Operation

The modem should be connected to a HART® field device by 2 pieces of KLEPS2 measuring clamps. The HARTCOM-x does not have surge protection; thus, use of an adequate lightning protection that does not affect standard HART® signal transmission is advised.

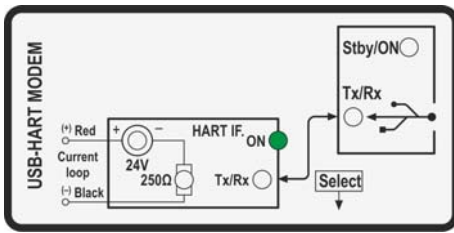
7.1 HART®/USB Interface Function (model HARTCOM-0)

The clips should be positioned in accordance with polarity. When the USB cable and the clips are connected to the PC, the modem turns on, and switches to the basic state marked with an asterisk (*). The following states are displayed during operation:



Interface	Name	LED		
		Color	State	
USB		not lit	turned off (inactive mode)	
	Stby/ON	yellow	turned on (standby mode)	
		* green	turned on (active mode)	
	TX/RX	red		PC send
		green		PC receive
		* not lit		no data transfer
HART®	ON	not lit	turned off (inactive mode)	
		* green	turned on (active mode)	
	TX/RX	red		transmission to HART®
		green		reception from HART®
		* not lit		no data transfer

7.2 Current Loop Power Supply 24 V, additional Function (only for model HARTCOM-1)



After turning on, the modem starts working in basic mode (marked with an asterisk (*)). Then, in addition to the states described in 7.1, the following modes can be set by pressing the “Select” button for a short time (<1 s).

Number of short (<1 s) button press	LED		
	Name	State	
1 st	250 Ω	yellow	HART® resistor ON
	24 V	not lit	Power supply OFF
2 nd	250 Ω	yellow	HART resistor ON
	24 V	yellow	Power supply ON
3 rd	250 Ω	* not lit	HART® resistor OFF
	24 V	* not lit	Power supply OFF
4 th	Same as in 1 st row above		

Turning on/off the modem by pressing the “Select” button for a long time (>5 s).

Number of long (>5 s) button press	LED		
	Name	State	
1 st	Every LED	not lit	Modem OFF
2 nd	LEDs according type	Basic state according type	Modem ON
3 rd	Same as in 1 st row above		

8. Maintenance and Repair

The device does not require regular maintenance. The warranty card contains the terms and conditions. Before returning the device for repairs, it must be cleaned thoroughly. The parts in contact with the medium may contain harmful substances; therefore, they must be decontaminated. The device must be sent back with a declaration of decontamination. A statement must be provided in the declaration that the decontamination process was successfully completed and that the device is clean from any hazardous substances.

9. Storage Conditions

Ambient temperature: $-25...+55$ °C ($-13...+131$ °F)
Relative humidity: max. 98%

10. Technical Information

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

11. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

12. Dimensions

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

13. Disposal

See “General Safety Instructions” - via the QR code on the device or via www.kobold.com

14. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

HART®-USB Modem model: HARTCOM-x

to which this declaration relates is in conformity with the following EU directives stated below:

2014/30/EU	EMC Directive
2011/65/EU	RoHS (category 9)
2015/863/EU	Delegated Directive (RoHS III)

Also, the following standards are fulfilled:

EN 61326-1:2021 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

EN 61326-2-3:2021 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements

EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Hofheim, 01 July 2024



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