HM02

HART Modem-Converter to USB

The modem enables easy connection between a personal computer and a device equipped with HART protocol communication according to the Bell 202 Standard. Communication is based on using additional digital transmission of information which are superimposed on the 4 to 20 mA current output of the device. The modem is connected to the PC via USB port through which power to the modem is supplied as well. A software driver creates a virtual serial port in the computer through which it communicates with a connected peripheral.

In addition to maintenance and diagnostic data it is possible to transmit through the connection data in digital form such as value corresponding to the sensor output current and other measured variables. By this way, one sensor can measure and transmit several physical variables. Easy access to maintenance and diagnostic information of connected devices enables monitoring of an actual sensor status and by means of setting program in the PC it is possible to perform simple change in sensor settings as well. Besides, monitoring of measured physical value by input sensor current is still held.

The HM02 modem construction enables simple link to the connecting wiring of the sensor. There is no need to disconnect the sensor. Simultaneously it ensures galvanic separation between the measuring circuit and connected personal computer. The HM02 modem is primarily intended for maintenance purposes. In case of its permanent installation to the measuring circuit it is necessary to remove used measuring hooks and to connect the cables to the connection wiring appropriately.

Basic parameters

- The modem HM02 is fully self contained, no external power supply is needed. Required supply voltage is gained from signals of the connected personal computer USB interface.

- Isolation voltage between input and output side of the modem HM02 is 500 V.

- The modem HM02 is mounted in a plastic cover, on USB side the modem is equipped with A-type connector, on a HART side there are two conductor cables with isolated measuring hooks. The port on the HART side is symmetrical and it does not depend on polarity. Colour marking of measuring hooks is not important.

- Drivers are compatible with Windows 98SE, Windows ME, Windows 2000, Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, Windows Server 2008 R2, Windows 8/8.1 (excepting Windows 8 RT), Linux Ubuntu 11.10 (kernel 3.0.0-19) a Mac OS X 10.3-10.9.

- Size: 45×30×16 mm

- Input cables length: 1,0 m

- Output cables length: 0,4 m

- Weight: 55 g

Drivers Installation

- Newer versions of Windows allow installation through Windows Update service, some distributions of Linux include the driver as a part of system. For all other cases executable installer (exe file) or files necessary for manual installation are available.

- Once VCP drivers are installed properly, a new COM port is added to the system and can be accessed via Windows API as all other ports.

- Recommended parameters setting:
  · communication speed 9600 bps,
  · 8 bit transmission, no parity
  · 1 stop bit
  · Flow control NONE
  · FIFO buffer with RX-256 and TX-256 speed
  · Latency timer 10 ms

- The driver has to be installed for each used USB port.

Typical connection scheme of the HM02 HART modem in the measuring circuit

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