

## HM1-UD

### USB Hart Modem

The HM1-UD is a single channel HART modem module intended for use in conjunction with a PC or laptop computer running standard or proprietary software (such as PACTware) to configure, maintain and manage HART capable process instruments.

Communication between the PC and the module is via a high speed USB interface. Software drivers provided with the product create a virtual serial port on the PC identical in behaviour to a native serial port and may be used as such by software packages. The USB connection is convenient for portable engineering tools such as note and net books which often do not provide a serial interface.

#### Benefits

- Convenient portable USB device
- Virtual serial interface
- Compatible with all instruments
- Cost effective



#### General Features

- Supports point to point and multi-dropped loops
- Primary or secondary master
- USB interface
- Virtual serial port
- Fully isolated loop interface
- Polarity independent
- Grabber clip connectors
- Compatible with standard software tools

#### Details

The HM1-UD is housed in a USB stick enclosure that can be plugged directly into a standard USB port, or used with a USB extension cable for extended reach. Two flexible silicon flying leads with grabber clips provide a convenient means to connect to process loops.

The driver software for the product creates a virtual communications port in the host PC that can be read from and written to as for a conventional serial port.

Serial interface signals are assigned as:

TX:	Data sent to the HART loop
RX:	Data received from the loop
RTS:	Enables data transmission
CTS,DSR,DCD,RI	Indicates loop busy

Data sent to the TX signal of the virtual COM port is transformed into a suitable HART FSK signal and placed on the instrument loop

Data detected on the HART loop is converted and appears on the RX signal of the virtual COM port .

When a HART carrier signal is detected on the instrument loop the CTS, DSR, DCD and RI signals are asserted.

**HART** COMMUNICATION PROTOCOL

## Technical Data

### Computing

None

### H.A.R.T Interfaces

Quantity: 1  
Type: Primary/secondary  
Master  
Multi-drop support: Yes

### USB Ports

Quantity: 1  
Type: USB 2.0

### Interface Protocols

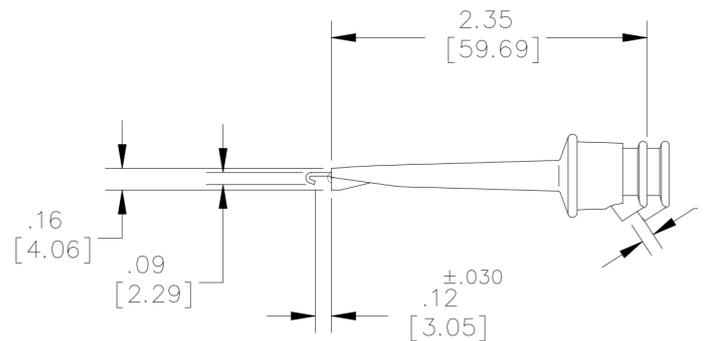
Types: Raw modem

### Power

Nominal Voltage: +5V from USB port  
Power: < 0.25 W

### Connectors

USB: TYPE B  
LOOP: Grabber clips on flying leads



### Environment

Operating: 0 to +50 °C Ambient  
Storage: -20 to +70°C  
Humidity: 0 to 70 % non-condensing

### Safety

Dielectric isolation 2500 V (1 minute duration)

### Certification

Europe  CE in accordance with EN ISO 17050-1:2004  
USA Class A device, pursuant to part 15 of FCC regulations  
Canada Compliant with ICES-003



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