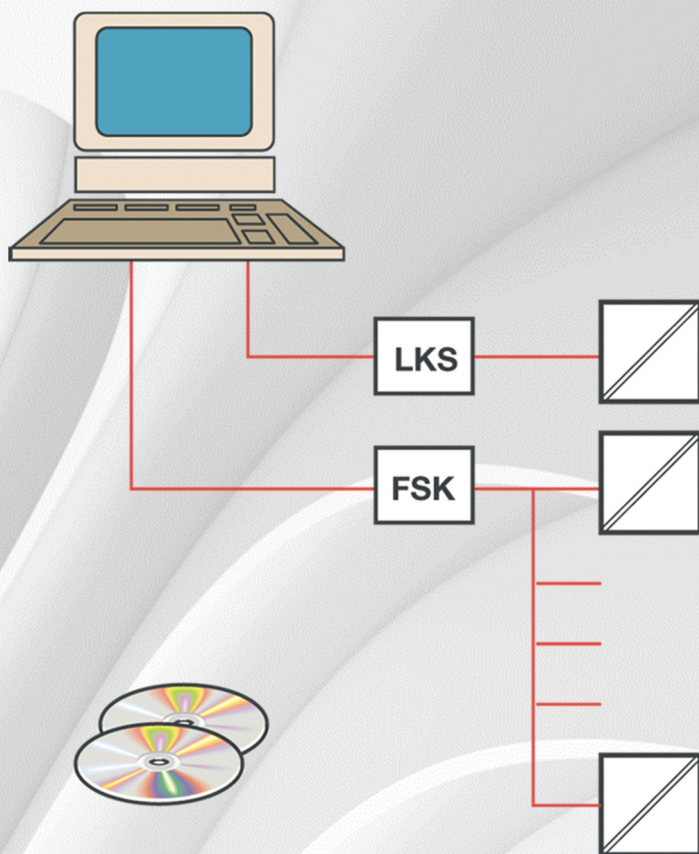


ABB MEASUREMENT & ANALYTICS | DATA SHEET

HART-Adapter



Measurement made easy

HART FSK / PC modem

- USB
Ex(Haz.) and Non-Ex(Haz.) applications
- Bluetooth
Non-Ex(Haz.) applications

NHA121-NX, NHA121-NO HART® FSK / PC USB or Bluetooth modem

Modem

Desktop PCs as well as notebooks can be flexibly connected in the field to a HART® network via the USB / Bluetooth modem NHA121-NX / -NO. That way, the real-time data from the field devices are available for applications such as mobile measured value acquisition and parameterization.

On the device side the modem comes with 2-pole clip terminal. The terminal clips can work at any point of the analog measurement value transmission. Thereby no polarity must be observed. The modem can work as primary as well as secondary Master and is furnished with galvanic isolation to the HART network.

The USB adapter supports the HART® specification standard. The USB-powered adapter requires no external power supply. The Bluetooth modem can be powered via 3 replaceable AAA cells or the USB connection. If operating in battery mode it can be powered down by an on/off-button.

To increase the life span of the batteries the device switches to sleep mode if no Bluetooth communication takes place.

The activity on the HART® network is indicated by one LED.

For the use in hazardous areas we deliver an intrinsic safe, ATEX certified version: NHA121-NX. It is functionally equivalent to the NHA121-NO type.

Software

The modem supports the Windows operation systems and it can work like a serial modem. It offers a serial COM-port so that already existing applications can be used without any changes.

Furthermore a device type manager (DTM) is included. The DTM provides communication between devices on the HART® bus and their DTMs. With its help set-up and configuration of the HART® network can be done.

Device Type Manager for HART® Networks (optional)

The software package HART® FDT consists of the component:

- CommunicationDTM **CommDTM** for NHA121-NX / -NO

CommDTM

The CommDTM is compliant with the current FDT specification 1.2.1. It requires the NHA121-NX/-NO as basic hardware. The DTM takes care of its management and configuration. It replaces the vendor specific configuration software with a standard FDT approach.

The CommDTM can be compared to a device driver which facilitates the communication between the field devices at the HART bus and their device DTMs. It therefore supports the commissioning of the field devices from one central workstation.

The communication interface can be employed as primary as well as secondary master. The configuration window of the CommDTM enables the user to switch between the two options. The retry limit and the number of preambles may also be set through the configuration window.

Features

The function 'Device List' allows the scan for devices attached to the HART® bus. All devices, which can be reached through a polling address, are listed. Additional information is available for every device found, including the tag, the vendor identification, the device type and the device ID.



In order to change the poll address of a device, it can be selected from the device list. A new window opens which permits the setting of the new poll address. The CommDTM secures that the device is not currently in use by any DeviceDTM. The device state is indicated in the device list. The CommDTM also checks whether the new poll address was already taken by another device, preventing an address overlay between different devices.

Explosion protection for NHA121-NX

Approved for connection to an intrinsically safe transmitter circuit.

... NHA121-NX, NHA121-NO HART® FSK / PC USB or Bluetooth modem


Specification

| Modem type | NHA121-NX | NHA121-NO (L0002) |
|---------------------|--|---|
| |  |  |
| PC Interface | | USB |
| Area of application | | mobile / stationary |
| Modem chip | HT2012 | DS8500 |
| Connection | | 2-pole current clamp |
| Operation | | up to 16 connections in parallel. |
| Input Current | via USB port | approx. 100 mA |
| | via 4 to 20 mA | 0 mA |
| Transmission rate | | 1200 Bit/sec (600 Bit/sec optional) |
| Available software | | IsHRT CommDTM (FDT 1.2.1) |
| CommDTM | | supports HART® Version 5, 6 and 7 |
| Operating system | | Windows® 7, 8.x & 10 (32-Bit / 64-Bit) |
| Certification | CE, ATEX | CE |
| ATEX | II (2) G [Ex ia] IIC | — |
| Scope of delivery | Hardware with fixed USB cable and plug-in alligator clips, driver and configuration software, CommDTM, documentation in German and English to CD | |

Note

Installation of the Software / DTM

- The USB modem may be connected to a PC only after the driver has been installed! Otherwise, the modem could possibly not be detected correctly.
- Modems with serial numbers 2xxxx and 4xxxx cannot be run in 64 bit -versions of Microsoft(R) operating systems.

| | | |
|---------------------|---|----------------|
| Modem type | NHA121-NO (L0003) | |
| |  | |
| PC Interface | Mini USB | |
| Area of application | mobile / stationary | |
| Modem chip | WT11 (Bluegiga), FCC ID: QQQWT11IA | |
| Connection | 2-pole current clamp | |
| Operation | up to 16 connections in parallel. | |
| Input Current | via USB port | approx. 100 mA |
| | via 4 to 20 mA | 0 mA |
| Transmission rate | HART®: 1200 Bit/s Bluetooth: up to 2.1 Mbit/s | |
| Available software | IsHRT CommDTM (FDT 1.2.1) | |
| CommDTM | supports HART Version 5, 6 and 7 | |
| Operating system | Windows® 7, 8.x & 10 (32-Bit / 64-Bit) | |
| Certification | CE | |
| ATEX | — | |
| Power supply | 3 x AAA batteries (not included in the scope of delivery) up to 72 hours or mini USB cable | |
| Scope of delivery | Hardware with Bluetooth, mini USB cable and plug-in alligator clips, driver and configuration software, CommDTM, documentation in German and English on CD | |

Note

Installation of the software / DTM

- The USB modem may be connected to a PC only after the driver has been installed! Otherwise, the modem could possibly not be detected correctly.

Ordering Information

| HART®-FSK / PC modem | (14390-0201) * | Catalog No. |
|--|----------------|-----------------|
| NHA121-NX USB / HART FSK modem, IS input II (2) G [Ex ia] IIC, electrical isolation, to connect a tool to HART devices via a PC / Notebook incl. standard driver and CommDTM (FDT 1.2.1), for Windows 7, 8.x & 10 (32-bit / 64-bit versions). USB cable, connection cable with clips and manual (*.pdf) | | 3KDE636710L0001 |
| NHA121-NO USB / HART FSK modem, Electrical isolation, to connect a tool to HART devices via a PC / Notebook incl. standard driver and CommDTM (FDT 1.2.1), for Windows 7, 8.x & 10 (32-bit / 64-bit versions). USB cable, connection cable with clips and manual (*.pdf) | (14390-0102) * | 3KDE636710L0002 |
| Bluetooth / HART FSK modem Electrical isolation, to connect a tool to HART devices via a PC / Notebook incl. standard driver and CommDTM (FDT 1.2.1), for Windows 7, 8.x & 10 (32-bit / 64-bit versions). Mini USB cabel, connection cable with clips and manual (*.pdf). Batteries not part of the delivery content. | (14390-2002) | 3KDE636710L0003 |

* for configuration of general HART-instruments and TH(x)01, TS(x)02, BCI100 (Contrans I) backplane



Trademarks

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Windows is a registered trademark of Microsoft Corporation.

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Service



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