

Users Guide

Remote HART Configuration using the SignalFire Cloud

The SignalFire Cloud web app combined with the SignalFire Field Device Tunnel software provides for seamless configuration of remote HART field instruments connected to a RANGER. This powerful feature allows technicians to remotely commission, configure, and securely troubleshoot HART instruments from anywhere. This feature allows users to connect the vendor specific FDT Frame application including PACTware, RadarMaster, DeviceCare, and FieldCare to the remote field devices over the cellular network. Other software that uses a serial port for HART communication may also work.

To utilize this feature the RANGER must have the remote HART configuration subscription feature enabled. Contact SignalFire or your sales representative for details on adding this subscription option. Additionally, the SignalFire Cloud user account must have the 'Remote Sensor Configuration' option enabled, this allows account administrators to limit the users that have access to this feature.

Prerequisites

The SignalFire RANGER ToolKit must be installed on the PC

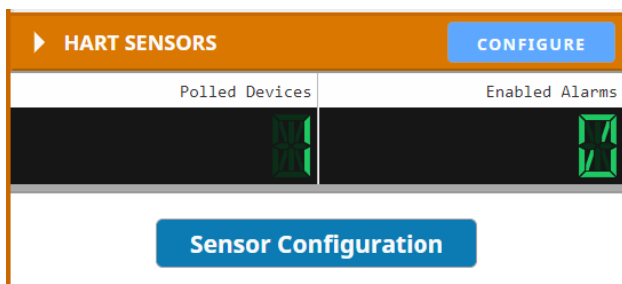
Launch the SignalFire Cloud Device Tunnel application from Windows Start Menu

Must access the SignalFire Cloud using Google Chrome or Microsoft Edge web browser

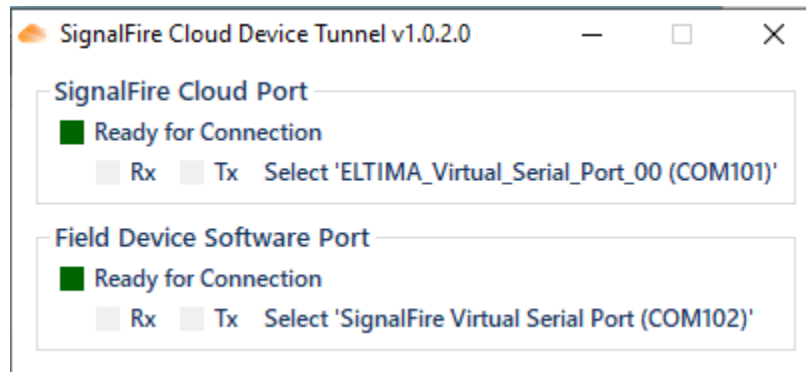
PACTware (or similar software) requires the [CodeWrights HART CommDTM](#)

Starting remote HART configuration session

To access the remote HART configuration, from the SignalFire Cloud, click the "Sensor Configuration" button on the HART tile from any HART enabled RANGER, this will open the remote HART configuration management page.







1. Run the “SignalFire Cloud Device Tunnel” application from your Windows Start menu. This application is installed as part of the RANGER ToolKit installation. It will open the application shown below and create two serial ports on your machine.

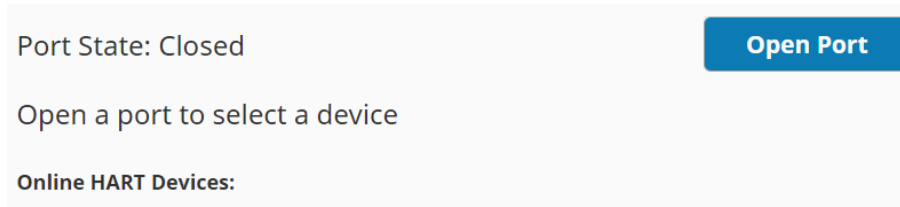


Minimize this application and it will go to your system tray.

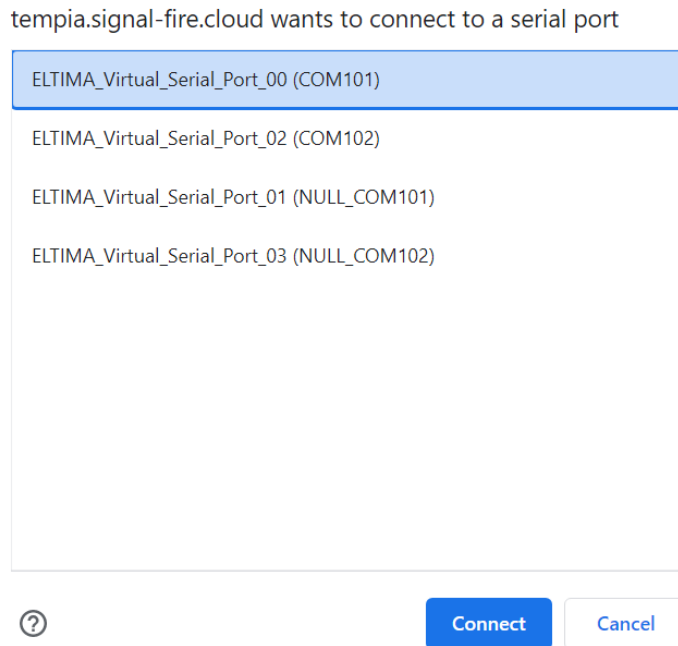
On the system tray you will see the following Icon when the service is running:

| | |
|---|--|
|  | The SignalFire Cloud Device Tunnel service is running and ports aren't in use. |
|  | The SignalFire Cloud Device Tunnel service is running and port 101 is in use. This is the Web App Port in service. |
|  | The SignalFire Cloud Device Tunnel service is running and port 102 is in use. This is the port being used by the application software like PactWare, FieldCare, etc. |
|  | The SignalFire Cloud Device Tunnel service is running and both ports 101 and 102 are being used. |

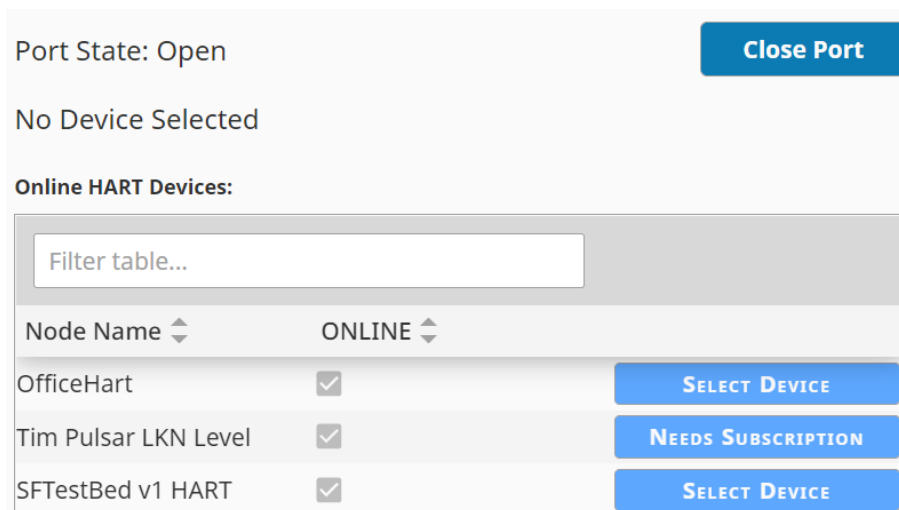
2. On the SignalFire Cloud, click the Open Port button



3. Select the "ELTIMA_Virtual_Serial_Port_00 (COM101)" from the list and click connect



4. Click the 'Select Device' button next to the RANGER that you would like to put into remote HART configuration mode



When the RANGER is in ready and in remote tunnel mode it will show as connected

The screenshot shows a web interface with the following elements:

- Port State: Open
- Close Port button
- Connected to SFTestBed v1 HART
- Disconnect button
- Section header: Online HART Devices:
- Filter table... input field
- Table with columns: Node Name, ONLINE, and Action buttons.

| Node Name | ONLINE | Action |
|----------------------|-------------------------------------|--------------------|
| OfficeHart | <input checked="" type="checkbox"/> | SELECT DEVICE |
| Tim Pulsar LKN Level | <input checked="" type="checkbox"/> | NEEDS SUBSCRIPTION |
| SFTestBed v1 HART | <input checked="" type="checkbox"/> | SELECT DEVICE |

The system is now ready for you to connect with your FDT application to COM102.

If the CodeWrights CommDTM is not installed, please follow PACTware Installation steps at the end of this manual.

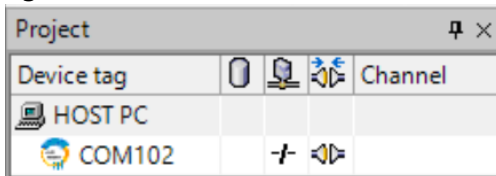
Follow steps 1-4 above to place a RANGER into remote HART configuration mode.

[5. Launch PACTware by opening the 'SignalFire Cloud PACTware Template' file.](#)

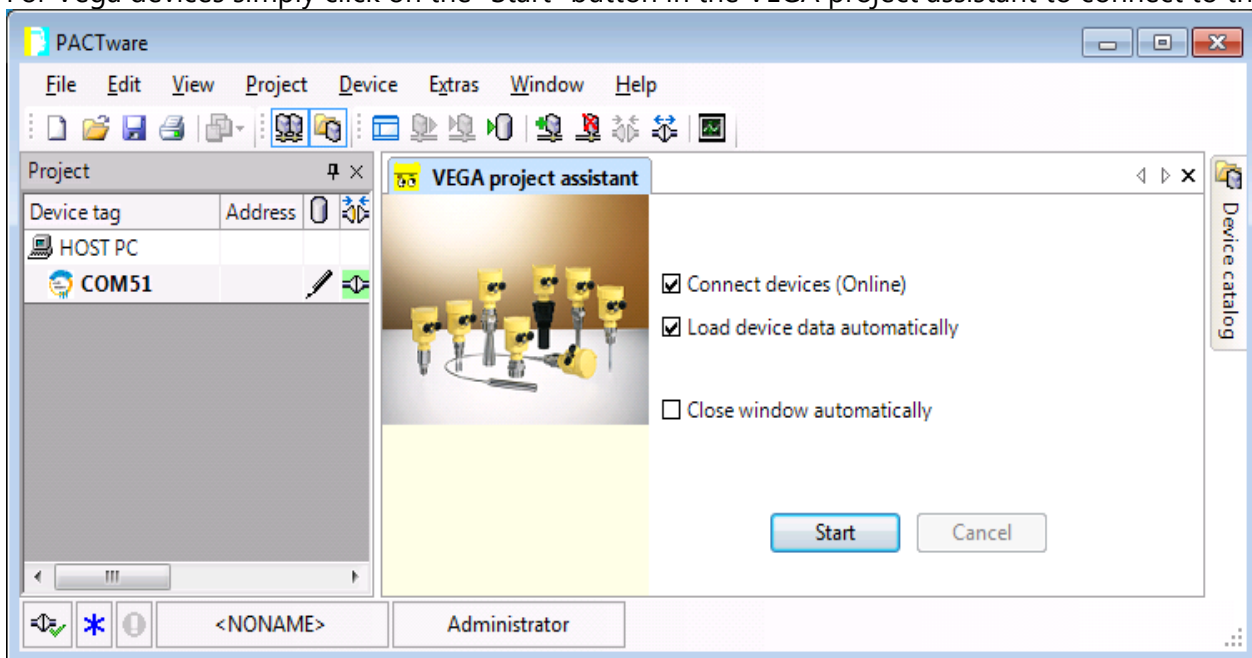
Click the following link on the SignalFire Cloud:

This will download a PACTware template file to your PC, open this file and your system will automatically open PACTware and apply the correct configuration.

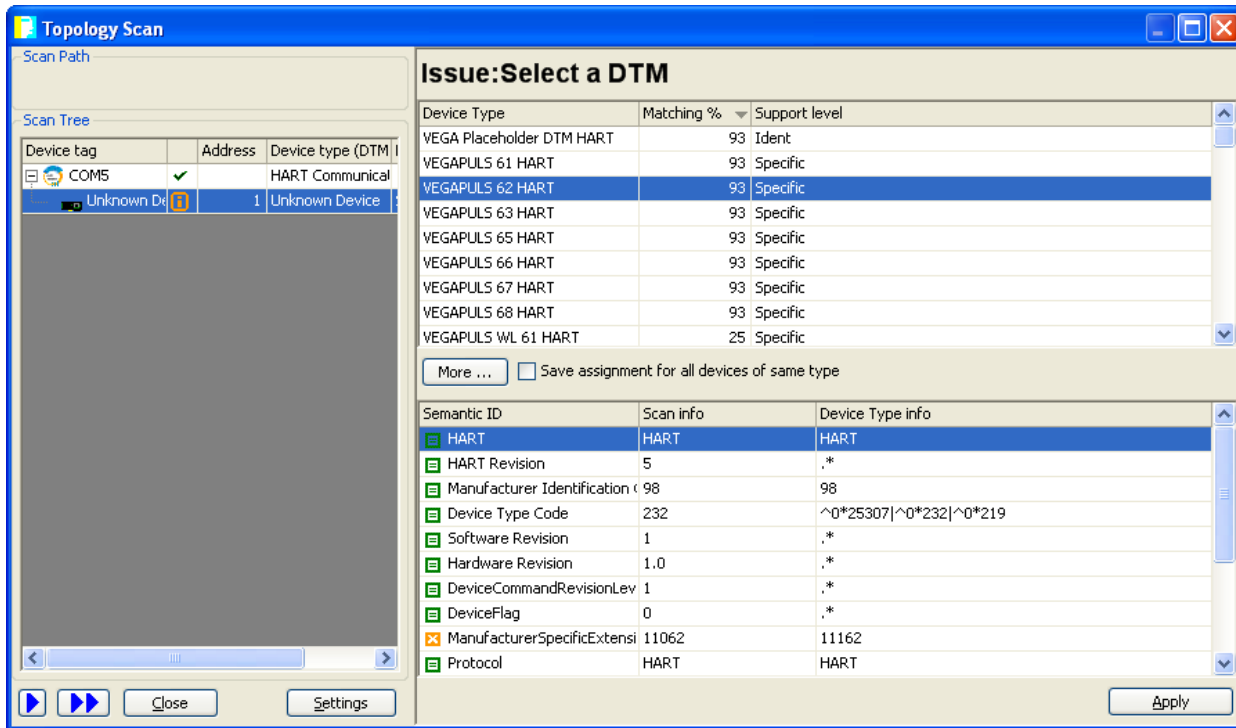
1. Right click on COM102 and select 'Connect'



2. For Vega devices simply click on the "Start" button in the VEGA project assistant to connect to the device.



3. For other HART devices use the PACTware Topology scan to detect the attached device



The attached HART sensor will be detected. Select the correct device DTM for the sensor and click Apply.

- Close the topology scan window
- Double click on the Sensor to open the device DTM
- Right click on the Sensor and select connect

The PACTware session is now fully active and the sensor may be configured as normal using the device DTM.

When finished, close PACTware and return to the SignalFire Cloud. Click on 'Disconnect' button to exit the remote HART configuration mode (this will also happen automatically after a 10 minute inactivity timeout).

Wireless Rosemount Radar Master Mode

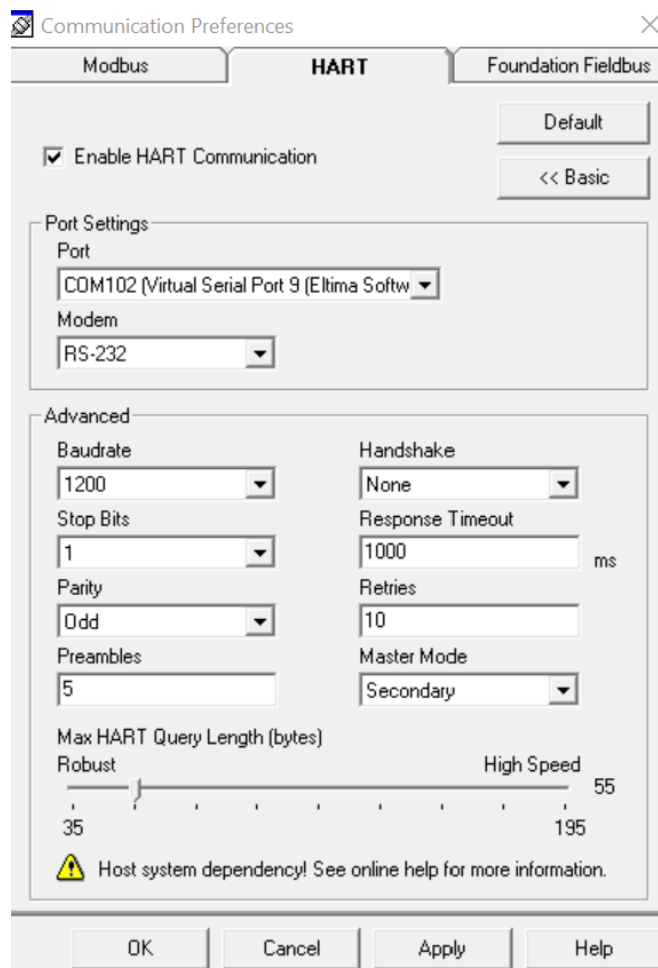
Starting a remote Radar Master Session

The following steps are necessary to complete a Remote Radar Master session.

1. Follow steps 1-4 from the "Starting Remote HART Configuration session" section to place the RANGER into HART configuration mode
2. Open the RadarMaster software

Select the COM102 Virtual Serial Port, **additionally the following setting must be changed.** See below:

- Handshake = Node
- Response Timeout = 2000
- Retries = 10
- Max HART Query Length = 55



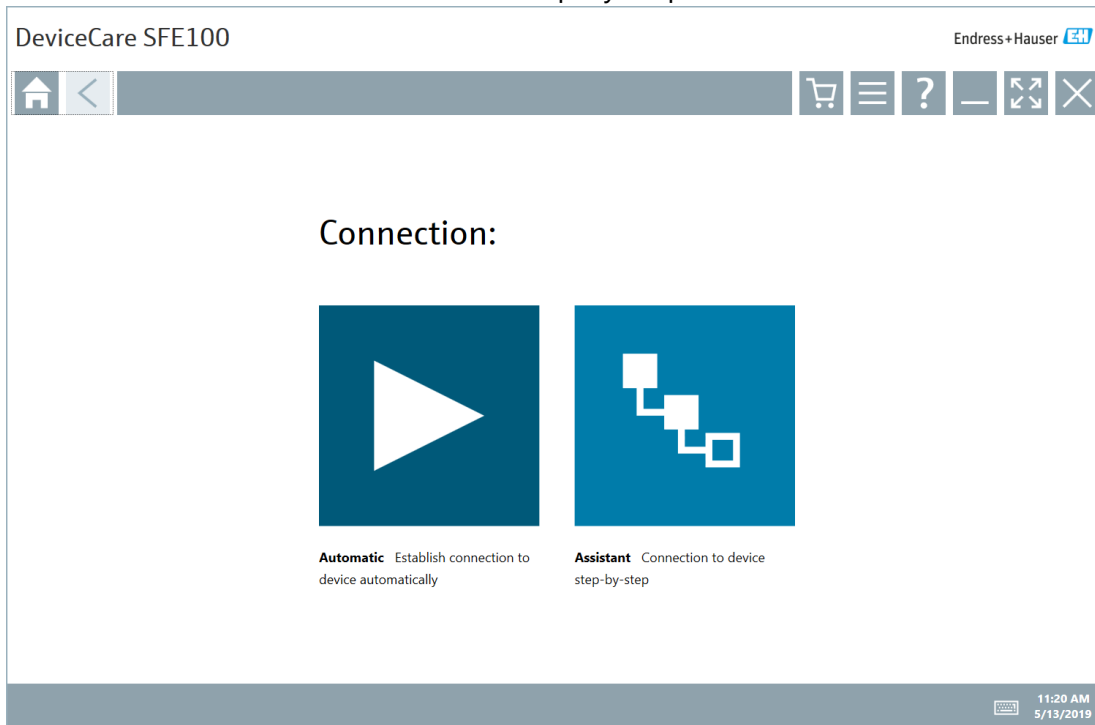
Now simply start a Radar Master using the selected COM port and configure the sensor as would normally be done using a HART modem cable.

When finished, close Radar Master and return to the SignalFire Cloud. Click on 'Disconnect' button to exit the remote HART configuration mode (this will also happen automatically after a 10 minute inactivity timeout).

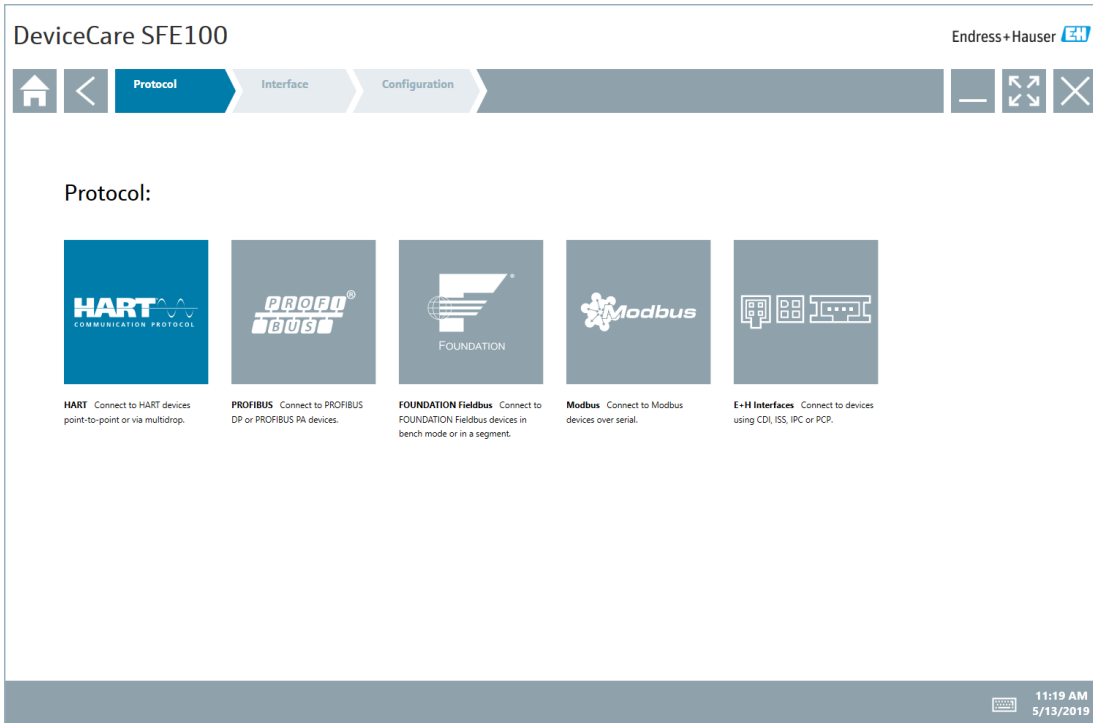
Starting a remote DeviceCare/FieldCare Session

The following steps are necessary to complete a DeviceCare/FieldCare session.

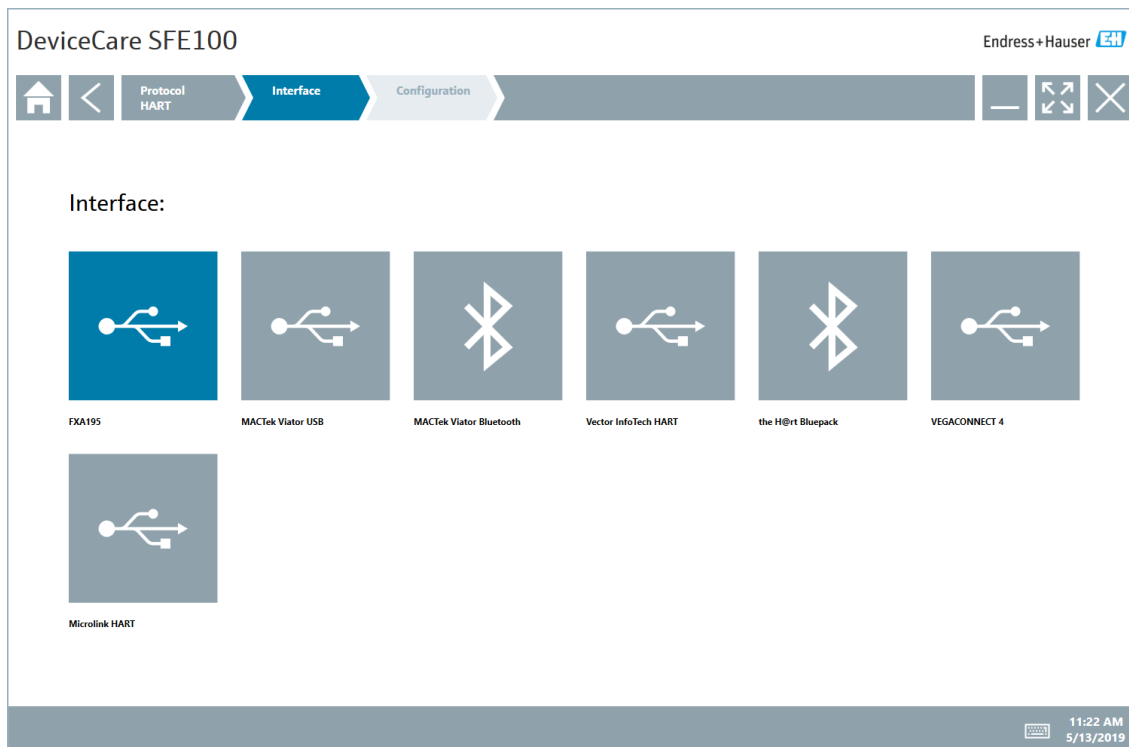
1. Follow steps 1-4 from the "Starting Remote HART Configuration session" section to place the RANGER into HART configuration mode
2. Open the Endress+Hauser DeviceCare or FieldCare application.
3. Select '**Assistant** Connection to device step-by-step'



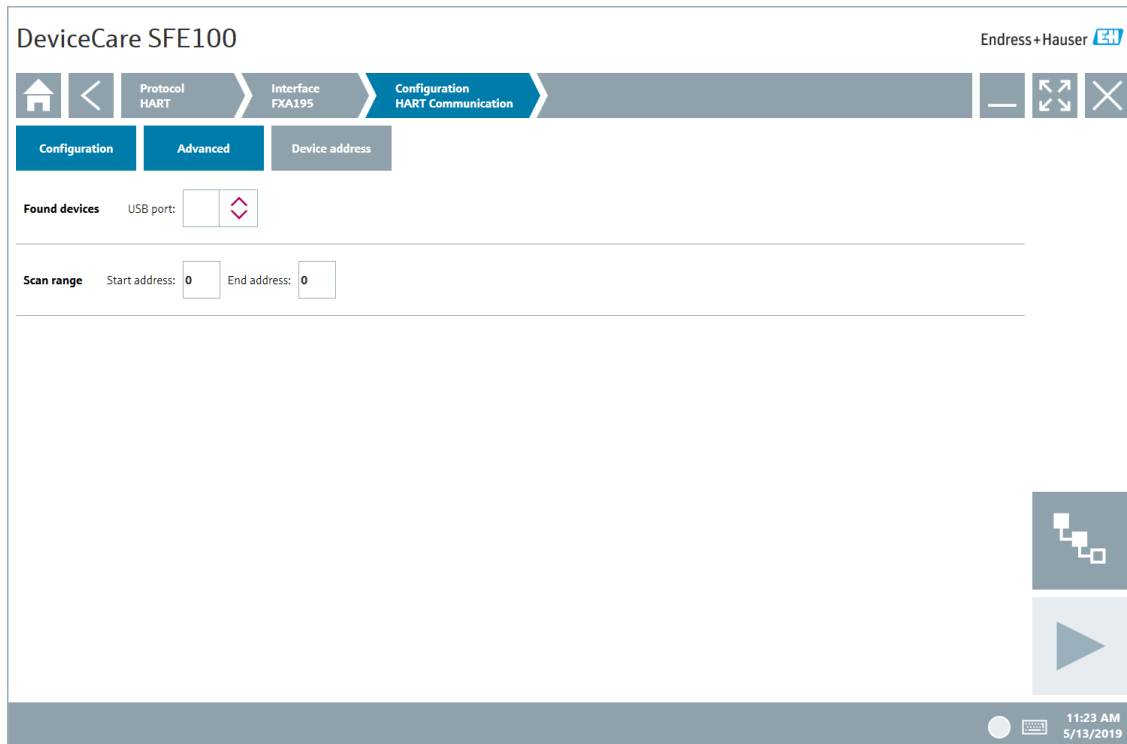
4. Select '**HART** Connect to HART devices point-to-point or via multidrop'



5. Select Interface: 'FXA195'



6. Select 'Advanced'




7. Select the appropriate HART modem settings.

- Serial Interface: **COM102 (SignalFire Virtual Serial Port)**
- Number of communication retries: **10**
- Start address: **1**
- End address: **1**

Note: The Start address would be 0 if the device is NOT in multidrop mode

Click '**Apply**' and '**OK**'

DeviceCare SFE100 Endress+Hauser 

Home < Protocol HART > Interface FXA195 > Configuration HART Communication

Configuration | **Advanced** | Device address

Communication interface: HART modem

Serial Interface: COM12 (SignalFire Virtual Serial Port)

HART protocol: Master Secondary Master

 Preamble: 5

 Number of communication retries: 10

Address scan: Start address: 1 End address: 1


Multimaster and Burst mode support

OK Cancel Apply

11:28 AM
5/13/2019

8. Click the right arrow in the lower right corner to scan for HART devices.


12

DeviceCare SFE100 Endress+Hauser 


Navigation: Home, Back, Protocol HART, Interface FXA195, Configuration HART Communication

Configuration | **Advanced** | Device address

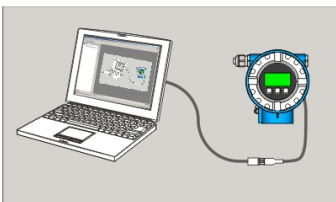
The DTM COM1 [HART Communication] has no GUI opened.

 Scans the next le

System tray: 11:31 AM, 5/13/2019



DeviceCare SFE100 Endress+Hauser 

Navigation: Home, Back, Program functions, DTM functions, Additional functions, Device report



Connection to device not established...

| Problem | Remedy |
|--|--|
| • Connection in progress | » please wait |
| • DTM is offline | » please switch DTM Online |
| • No connection to device or communication adapter | » check wiring and power supply » check settings of Communication DTM » check device address |
| • Communication driver not installed | » check USB driver installation |

 Check Connected Device Type 

System tray: 11:42 AM, 5/13/2019

Navigation bar with icons for Home, Back, Program functions, DTM functions, Additional functions, Device report, and window controls (Minimize, Maximize, Close).

Language Mode selection

Device Type: Cerabar S / PMx 7x / V02.1y.zz SOFTWARE VERSION: 02.10.54 MEASURED VALUE: 1 inH2O
DEVICE DESIGN: PMCT1-ABD1P6AFB2A Tag: CERABARS OUTPUT CURRENT: 4.000 mA
Status signal: OK MEASURING MODE: Pressure STATUS LOCKING: Unlocked

- Label
- Cerabar S / PMx 7x
- MEASURING MODE
- QUICK SETUP
- OPERATING MENU

Instrument health status

OK

13

PACTware Installation

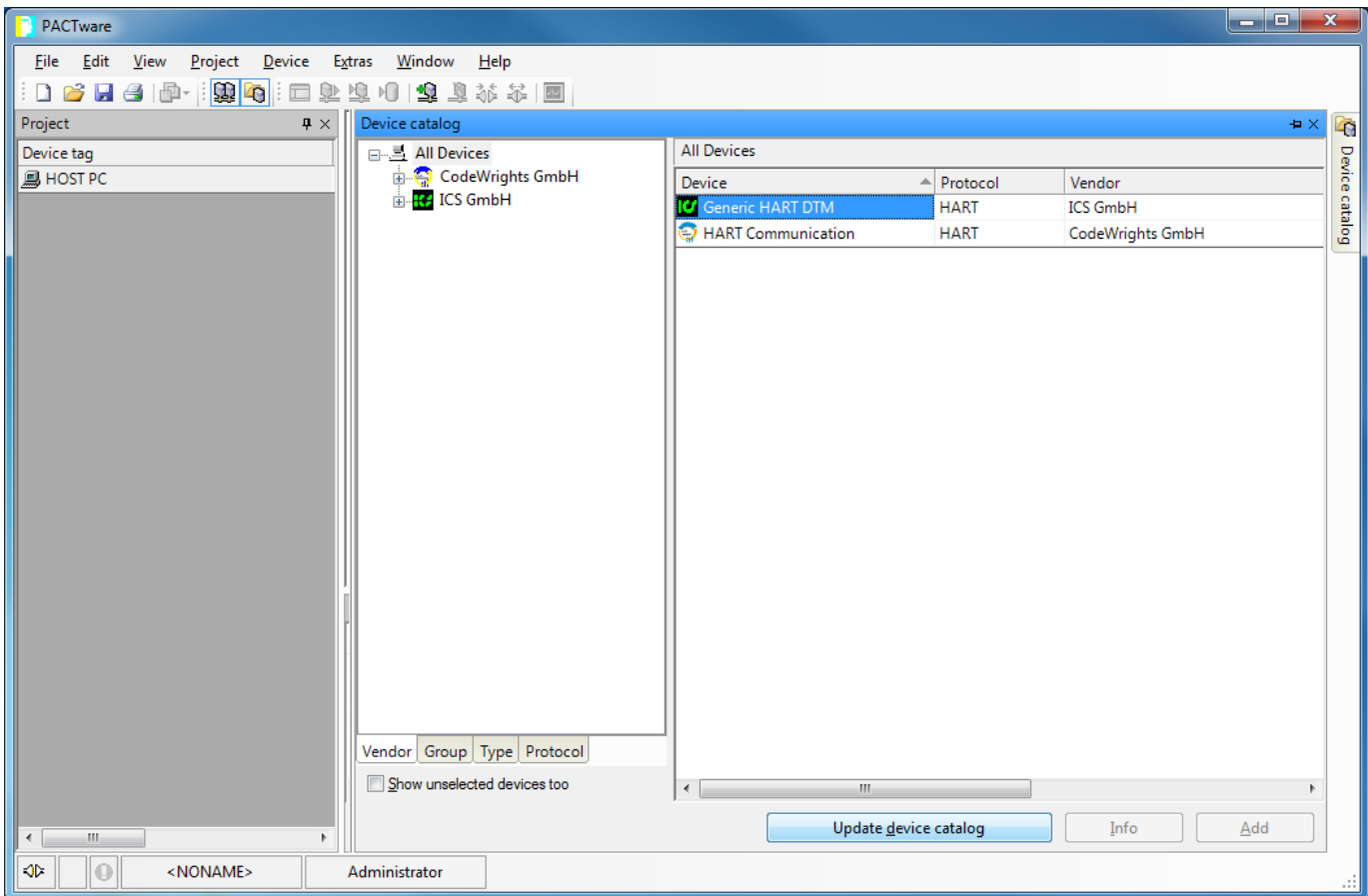
PACTware through the SignalFire Cloud requires the CodeWrights HART CommDTM.

Install the HART Communication DTM Driver for PACTware

Download CodeWrights HART CommDTM Installer from this link https://www.signal-fire.com/downloads/PACTware/HART%20Communication%201_0_55.zip Unzip and run setup.exe from the downloaded .zip file

14

- Open PACTware and go to the “view” menu and select “device catalog”
- Click on the ‘Update device catalog’ button to install the driver.
- Confirm that the CodeWrights GmbH driver appears under the devices menu.



Technical Support and Contact Information

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(978) 212-2868
support@signal-fire.com

15

Revision History

| Revision | Date | Changes/Updates |
|----------|---------|-------------------------|
| 1.0 | | Initial release |
| 1.1 | 7/13/23 | Corrected download link |
| | | |
| | | |