

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 mush 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

Port State: Closed	Open Port
Open a port to select a device	
Online HART Devices:	

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

tempia.signal-fire.cloud wants to connect to a serial port						
ELTIMA_Virtual_Serial_Port_00 (COM101)						
ELTIMA_Virtual_Serial_Port_02 (COM102)						
ELTIMA_Virtual_Serial_Port_01 (NULL_COM101)						
ELTIMA_Virtual_Serial_Port_03 (NULL_COM102)						
⑦ Connect Cancel						

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

Port State: Open			Close Port
No Device Selected			
Online HART Devices:			
Filter table			
Node Name 🗘	ONLINE 🌲		
OfficeHart		Si	LECT DEVICE
Tim Pulsar LKN Level	\checkmark	NEED	SUBSCRIPTION
SFTestBed v1 HART		Si	LECT DEVICE

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

Port State: Open	Close Port		
Connected to SFTestE	Disconnect		
Online HART Devices:			
Filter table			
Node Name 🌲	ONLINE 🌲		
OfficeHart			SELECT DEVICE
Tim Pulsar LKN Level			NEEDS SUBSCRIPTION
SFTestBed v1 HART			SELECT DEVICE

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

Remote PACTware

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'

Project				д	×
Device tag	0	<u>)</u>	¢۵	Channel	
📕 HOST PC					
🚭 COM102		Ŧ	⊲⊳		

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

PACTware			х
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>P</u> roject <u>D</u> evice	e E <u>x</u> tras <u>W</u> indow <u>H</u> el	p	
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Project 4 ×	📅 VEGA project assistant	4 b x	
Device tag Address 🛈 🖏			2
📕 HOST PC			lice
😔 COM51 🛛 🖉 🕁		Connect devices (Online)	cata
		Load device data automatically	log
		Close window automatically	
		Start Cancel	
4 III			
]
NONAME>	Administrator		

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

📑 Topology Scan					
- Scan Path	Issue:Select a DT	М			
Scan Tree Device tag Address Device type (DTM I COMS V HART Communical Unknown Device 1 Unknown Device 1	Device Type VEGA Placeholder DTM HART VEGAPULS 61 HART VEGAPULS 62 HART VEGAPULS 63 HART VEGAPULS 65 HART VEGAPULS 67 HART VEGAPULS 68 HART	Matching % + 93 93 93 93 93 93 93 93 93	Support li Ident Specific Specific Specific Specific Specific	evel	
	More Save assignme	25 nt for all devices	of same t	уре	
	Semantic ID	Scan info		Device Type info	<u>^</u>
	HART	HART		HART	
	HART Revision	5		*	
	🗐 Manufacturer Identification (98		98	
	🖃 Device Type Code	232		^0*25307 ^0*232 ^0*219	
	Software Revision	1		*	
	🖃 Hardware Revision	1.0		*	
	DeviceCommandRevisionLev	1		*	
	DeviceFlag	0		*	
	🔀 ManufacturerSpecificExtensi	11062		11162	
	Protocol	HART		HART	~
Close Settings					Apply

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

S Communication Prefe	erences		×
Modbus	HART	ĨF(oundation Fieldbus
		Default	
J ✓ Enable HART Com	munication		<< Basic
Port Settings Port			
COM102 (Virtual Ser	ial Port 9 (Eltima Sol	itw 💌	
Modem			
RS-232	•		
Advanced			
Baudrate	Har	ndshake	
1200	▼ No	ne	-
Stop Bits	Re	sponse Timeo	ut
1	▼ 10	00	ms
Parity	Ret	ries	
Odd	▼ 10		
Preambles	Ma	ster Mode	
5	Se	condary	•
Max HART Query Ler Robust 35	ngth (bytes)	Hi	igh Speed 55 195
A Host system dep	endency! See onlin	e help for mor	e information.
ОК	Cancel	Apply	Help

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'

DeviceCare SFE100)				Endress+Hauser 🖾
Frotocol	Interface	Configuration			-
Protocol:	0008 0 °		84		
COMMUNICATION PROTOCOL	6050	Foundation	Modbus	li con 1990	
HART Connect to HART devices point-to-point or via multidrop.	PROFIBUS Connect to PROFIBUS DP or PROFIBUS PA devices.	FOUNDATION Fieldbus Connect to FOUNDATION Fieldbus devices in bench mode or in a segment.	Modbus Connect to Modbus devices over serial.	E+H Interfaces Connect to devices using CDI, ISS, IPC or PCP.	
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5. Select Interface: 'FXA195'



6. Select 'Advanced'

DeviceCare SFE100	Endress+Hauser 🖽	1
Protocol Interface Configuration HART FXA195 HART Communication	-	
Configuration Advanced Device address		
Found devices USB port:		
Scan range Start address: 0 End address: 0		
	۳ _{۳0}	
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- 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'

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DeviceCare	SFE100			Endress+Hauser 🖽
	rotocol Interface IART FXA195	Configuration HART Communication		— Čž ×
Configuration	Advanced Device address			
Communication interface	HART modem 🗸			
Serial Interface	COM12 (SignalFire Virtual Serial Port) $\qquad \checkmark$			
HART protocol	Master Secondary Master 🗸			
	Preamble 5 ~ Number of communication 10 ~			
Address scan	Start address 1 ~			
	End address 1 ~			
Multimaster and Burst n	node support			
	nooc appoint			
				1 1 1 1
				чь
			OK Cancel	Apply
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8. Click the right arrow in the lower right corner to scan for HART devices.

DeviceCare SFE100	Endress+Hauser 🖽		
Protocol HART Interface FXA195 Configuration HART Communication Configuration Advanced Device address	opened.		
	Scare the next 5/13/2019	le	
DeviceCare SFE100	Endress+Hauser 🖾]	
Program functions V DTM functions V Additional functions V			
Connection to device not established			
Problem Connection in progress	Remedy » Dease 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		
	~		
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DeviceCare SFE100	Endress+Hauser 🖪	
Program functions V DTM functions V Device report V		1
Language Mode selection		
Device Type: Cerabar S / PMx 7x / V02.1y.zz SOFTWARE VERSION: 02.10.54 MEASURED VALUE: 1 in+20 DEVICE DESIGN: PMC71-ABD1P6AF82A Tag: CERABARS OUTPUT CURRENT: 4.000 mA Status signal QK MEASURING MODE: Pressure STATUS LOCKING: Unlocked	Endress+Hauser	
Label ID: @ Centurs 57 PMu 7. ID: @ MASURING MODE ID: @ QUICK SETUP Instrument health status		
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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 <u>https://www.signal-fire.com/downloads/PACTware/HART%20Communication%201_0_55.zip</u> Unzip and run setup.exe from the downloaded .zip file

- 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.

PACTware					_ 🗆 🗾	
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Project 🛛 🕂 🗙	Device catalog				+⊒ ×	6
Device tag	□	All Devices				Dev
HOST PC	CodeWrights GmbH	Device	Protocol	Vendor		ice c
		Generic HART DTM	HART	ICS GmbH		atalo
		HART Communication	HAKI	Codewrights GmbH		ğ
	Vendor Group Type Protocol	-1				
	Show unselected devices too					
4		Update <u>d</u> evice	catalog	Info	Add	
SI≥ O <noname></noname>	Administrator					:

Technical Support and Contact Information

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Revision History

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