

Rosemount™ VeriCase User Guide

Rosemount 3308 and 5300 Series Level Transmitters with HART® and Modbus®



Contents

Overview.....	3
Check contents and verification sheet.....	4
Verify the Rosemount 3308 transmitter.....	6
Verify the Rosemount 5300 transmitter.....	10
Generate a report.....	13
FAQs.....	14

1 Overview

The Rosemount™ VeriCase is a mobile verification tool for the Rosemount 3308 and 5300 Level Transmitters with HART® and Modbus® communications.

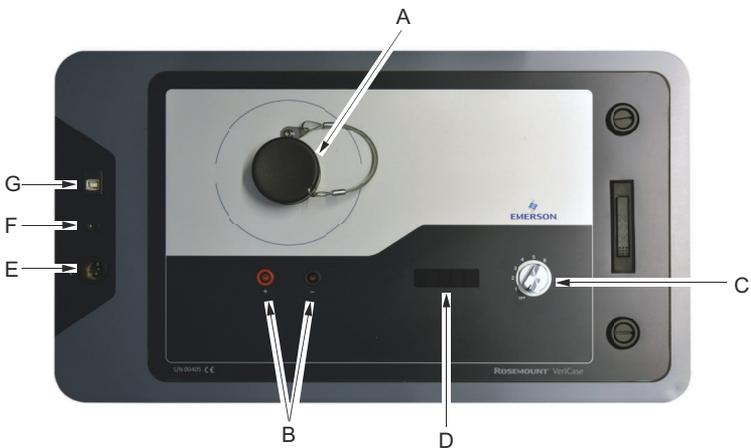
The Rosemount VeriCase accuracy is within ± 1 mm.

Figure 1-1 identifies the parts inside the case that you should be familiar with before performing verification.

Note

The Rosemount VeriCase does not have any hazardous approvals certifications and should only be used outside of such classified areas.

Figure 1-1: Rosemount VeriCase



- A. Transmitter mount
 - B. Terminal connections
 - C. Cable switch
 - D. Temperature display
 - E. Power input
 - F. Ground connection
 - G. USB cable connection
-

2 Check contents and verification sheet

2.1 Check contents

Procedure

Open the Rosemount VeriCase and check that it contains the following items:

- USB stick containing
- User Instructions
- Microsoft® Excel® workbook
- Calibration certificate
- HART modem drivers
- Rosemount Radar Master (for Rosemount 5300 Level Transmitter)
- Instrument Inspector Application™ (for Rosemount 3308 Wireless Level Transmitter)
- Printed calibration parameters
- Printed certificate
- 110/220V Power Supply
- 12 VDC Power Cable
- USB A-B cable
- Two terminal connection cables with banana plugs and grippers

2.2 Check the verification sheet

Procedure

1. Open the Excel workbook found on the USB memory stick.
2. Check that the following details in the workbook correspond to the printed certificate found inside the Rosemount VeriCase:
 - Serial number and calibration date
 - Cable lengths
 - Values for temperature correction table

2.3 Power up the Rosemount VeriCase

The Rosemount VeriCase can be powered by either a 110V/220V power supply or a 12VDC power adapter supplied with the Rosemount VeriCase. To power up the Rosemount VeriCase and connect it to a transmitter head:

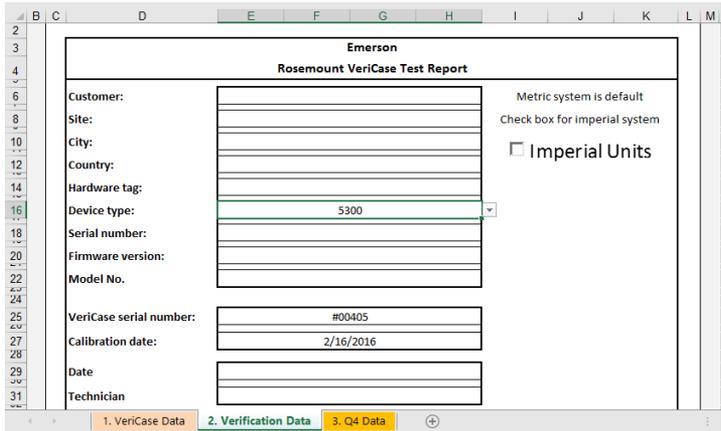
Procedure

1. Connect the power cable.
2. Screw the transmitter firmly onto the mount of the faceplate.
3. Insert the terminal connectors in the + and – terminals on the faceplate and attach the other ends to the terminals of the transmitter.
4. Connect the USB A-B cable between your computer and the Rosemount VeriCase.
5. To start the verification procedure, the switch should be turned from position 0 to position 1.

3 Verify the Rosemount 3308 transmitter

Prerequisites

1. Fill in the details in the **Verification Data** tab of the Excel workbook. Record the serial number of the device from the nameplate of the transmitter.



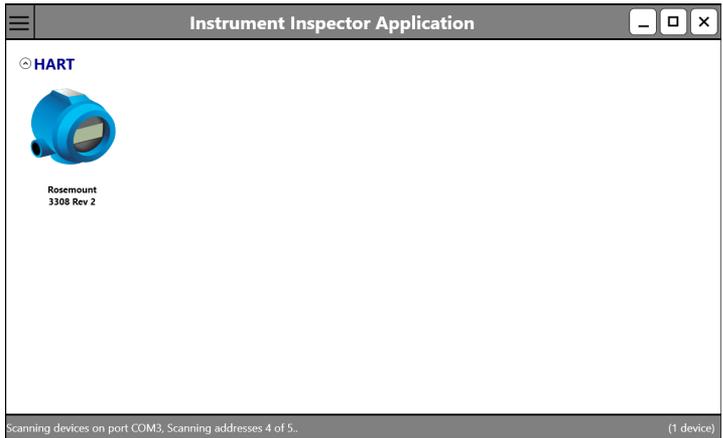
2. (Optional) Select the Imperial Units check box to enter data in inches and Fahrenheit.

Note

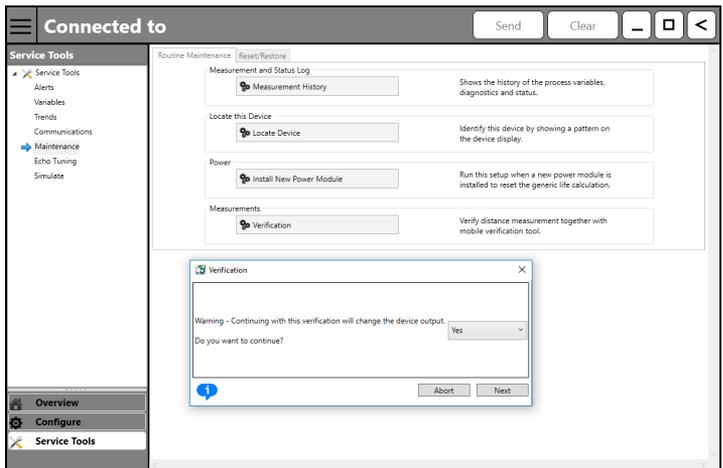
There is a possible inaccuracy of 1.25 mm (0,05 in.) when inches are used for the display.

Procedure

1. Start Instrument Inspector Application.
2. Under **HART**, double-click the device icon.



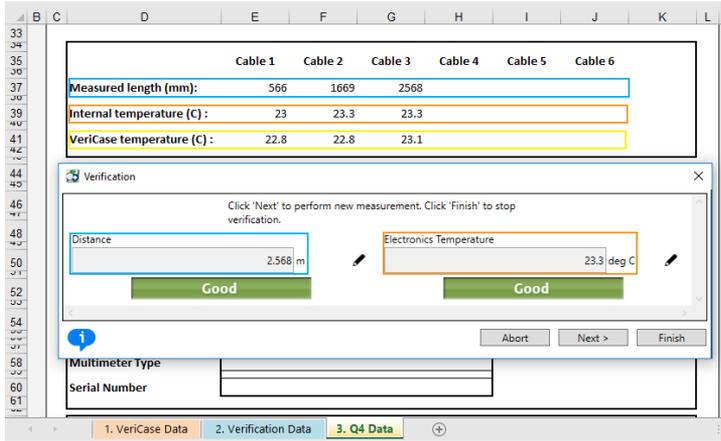
3. Make sure the cable switch on the Rosemount VeriCase is set to position 1.
4. Select **Service Tools** → **Routine Maintenance**, and then select **Verification**.



5. In the **Verification** window, select **Next**.
6. Enter the Distance and the Electronics Temperature, displayed on the Verification window, to the Excel workbook.

Note

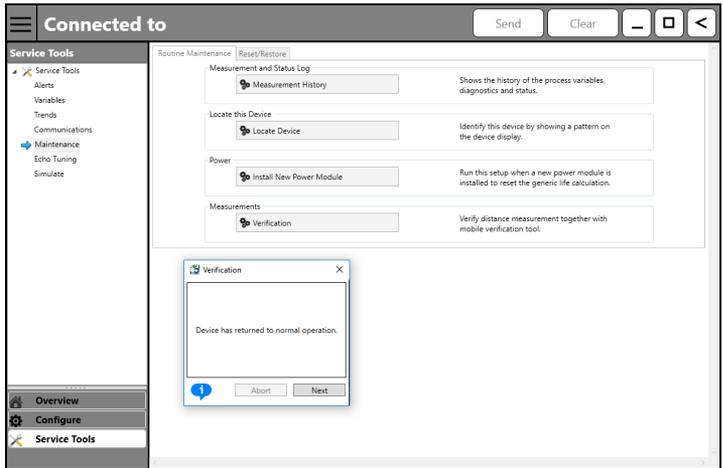
Make sure you convert the distance from meters to millimeters.



- 7. Enter the VeriCase temperature, displayed on the device, to the Excel workbook.



- 8. Switch to the next cable on the Rosemount VeriCase, and then select **Next**.
- 9. Repeat **Step 6-Step 8** for all six cable lengths.
- 10. When all the cables are measured, select **Finish**, and then select **Next**.

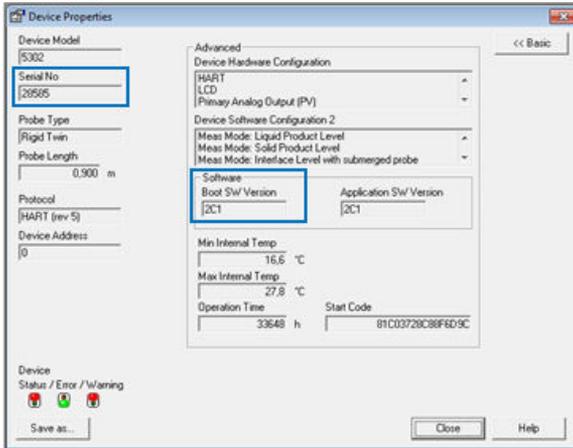


11. After the configuration is restored, disconnect communication to the transmitter.

4 Verify the Rosemount 5300 transmitter

Prerequisites

Open the Rosemount Radar Master and record the serial number and firmware revision of the device to be tested in the **Verification data** tab of the workbook. This information can be found in the **Device Properties** window in the **Device** menu in Rosemount Radar Master.



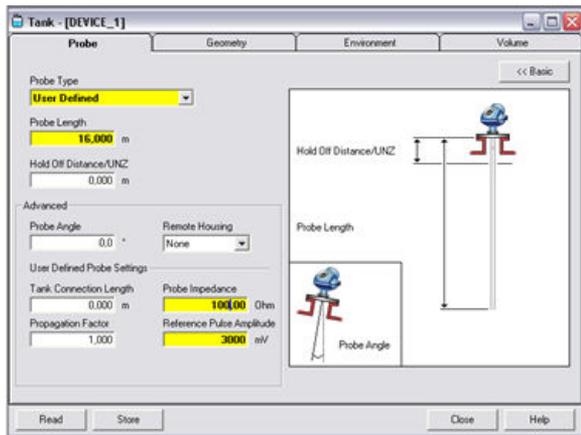
Note

Inches or millimeters should be selected for measurement units (there is a possible inaccuracy of 1.25 mm (0,05 in.) when inches are used for the display).

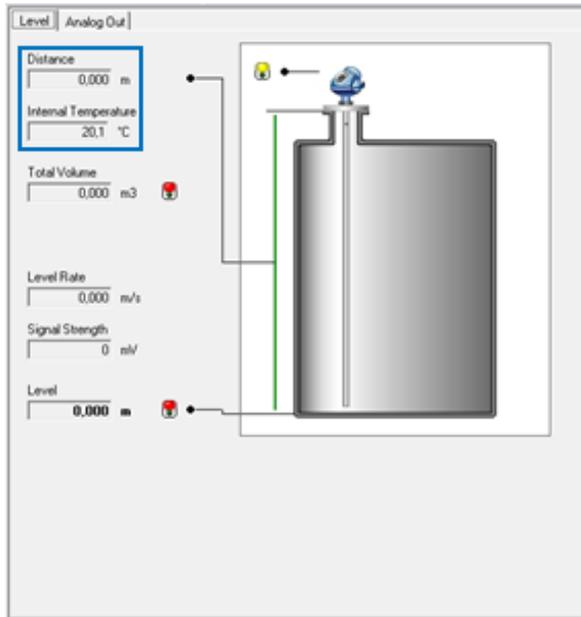
Procedure

1. Configure device for verification.
 - a) Select **Device** → **Backup Config to File...** and save a backup file of the current device.
The backup file needs to be reloaded once the verification is complete.
 - b) Select **Setup** → **Tank** and configure the following parameters for the transmitter that will be tested:
 - Probe type: User Defined
 - Probe length: Longest cable length +50 cm (20 in)
 - Probe Impedance: 100 Ω
 - Reference Pulse Amplitude: 3000 mV

- c) Make sure that the below parameters are set with the following values:
- Propagation Factor: 1,000
 - Tank Connection Length: 0
 - Remote housing: None
 - Probe angle: 0
 - Vapor DC: 1
 - Measurement mode: Liquid product level, solid product level or product level and interface level
- d) Save these configuration changes and restart the device.



2. Perform the verification test.
- a) Set the cable switch to position 1. Wait for the values to stabilize before taking a reading from the **Device Display** window in Rosemount Radar Master.
 - b) Record the distance value, the internal temperature of transmitter, and the Rosemount VeriCase temperature.
 - c) Repeat the procedure in 2.b for all six cable lengths in the Rosemount VeriCase.



Postrequisites

Once the verification is complete, restore the original configuration by uploading the backup file to the transmitter.

4.1 Upload backup file to transmitter

Procedure

1. Select **Device** → **Upload Config from File...** and reload the saved file.
2. After the backup has been restored, disconnect power and communication to the transmitter.

5 Generate a report

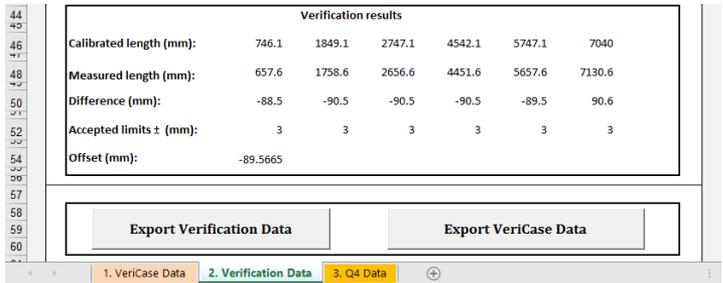
Once testing is complete, a report can be generated from the Excel workbook. It is possible to generate a verification report and/or a Q4 certificate.

Prerequisites

To generate a Q4 certificate, the analog output of the transmitter under verification should be tested at 4 mA, 12 mA and 20 mA and the results should be saved in the Q4 Data tab before generating the certificate.

Procedure

1. In the **Verification Data** tab, select the **Export Verification Data** button to generate a verification report.
2. In the **Q4** tab, select the **Export Verification Data** button to generate a Q4 certificate.



A FAQs

Q: Can verification of a FOUNDATION™ Fieldbus transmitter be performed using the Rosemount VeriCase?

A: Yes, but an external FOUNDATION Fieldbus modem (and power supply if explosion-proof) is required as the FOUNDATION Fieldbus modem is not built into the Rosemount VeriCase.

Q: What do I do if a device fails?

A: Ensure the device is correctly configured and repeat the test. If the results are the same, log a support request in the same way as you would do with other level instrumentation, providing all the details of the test including the results and the backup files.

Q: How do I know if a device has passed the test?

A: Refer to the Rosemount 5300 [Product Data Sheet](#) for accuracy specifications. A device has passed if the final result is inside the combined accuracy for the Rosemount 5300 and the Rosemount VeriCase as shown in the Excel workbook.

Q: What does the offset value in the results mean? Do I need to adjust anything in the guided wave radar settings?

A: The offset is generated from the Rosemount VeriCase rather than the probe. This is compensated automatically and there is no need for manual adjustments.

Q: Why is the transmitter rebooted every time I switch cable length?

A: The transmitter is rebooted so that the measurement can be reset to lock on to a new value without echo logic or filtering affecting the measurement.

Q: How often should the Rosemount VeriCase be calibrated?

A: Once a year or if the calibration seals have been broken.

Q: The calibration of the Rosemount VeriCase has expired. What do I do?

A: Every world area has an assigned administrator to coordinate recalibrations. Contact your administrator for further instructions.



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