

# Rosemount™ VeriCase User Guide

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



# Rosemount VeriCase

## 1.0 Rosemount VeriCase overview

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

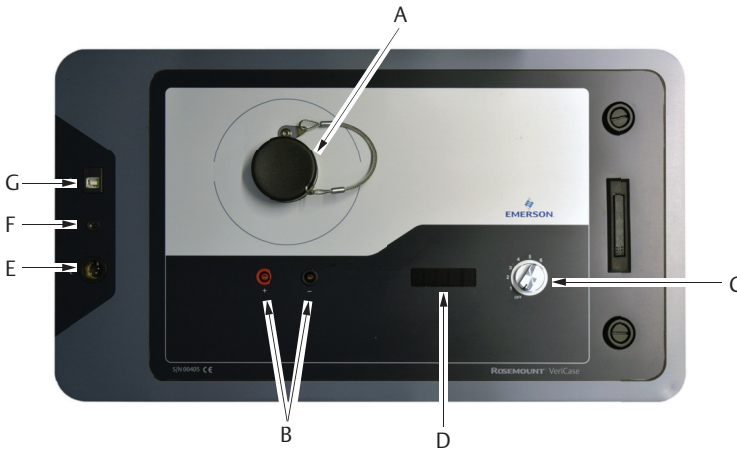
Rosemount VeriCase Accuracy: Within  $\pm 1$  mm

The picture below identifies the parts inside the case that the user 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. Rosemount VeriCase**



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

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## 2.0 Check Rosemount VeriCase and verification sheet

### 2.1 Check contents

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)
  - Rosemount Configuration Tool (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 verification sheet

Open the Excel workbook found on the USB memory stick and 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

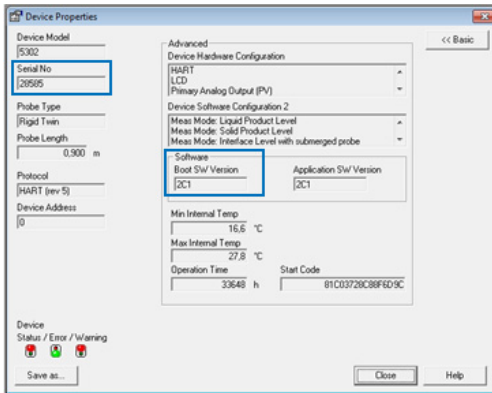
The Rosemount VeriCase can be powered by either a 110V/220V power supply or a 12VDC power adapter supplied with the Rosemount VeriCase. In order to power-up the Rosemount VeriCase and connect to a transmitter head, follow the steps below;

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

## 3.0 Performing a verification on a Rosemount 5300 transmitter

### 3.1 Before you start

- Open 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.



### 3.2 Verification procedure

#### Note

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

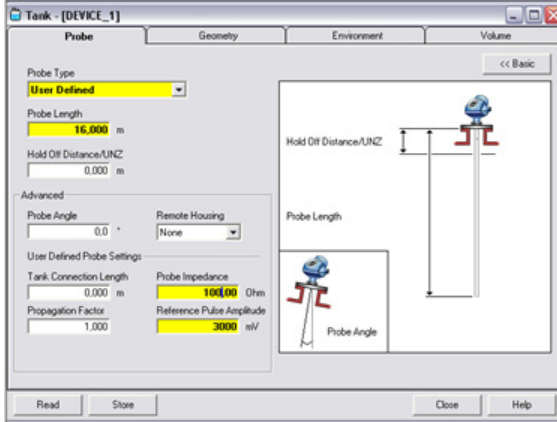
#### Configure device for verification

1. Save a backup file of the current device (this will need to be reloaded once the verification is complete) by selecting **Device -> Save Config to File...**
2. In the *Tank* window under the *Setup* menu, configure the following parameters for the transmitter that will be tested:
  - Probe type: **User Defined**
  - Probe length: longest cable length **+50cm (20-in)**
  - Probe Impedance: **100 Ω**
  - Reference Pulse Amplitude: **3000mV**

Make sure that the below parameters are set with the following values

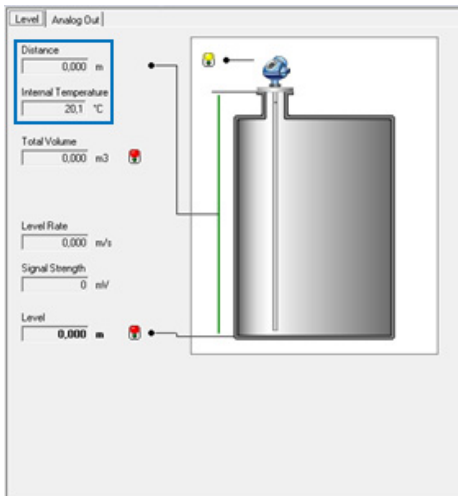
- Propagation Factor: **1,000**
- Tank Connection Length: **0**
- Remote housing: **None**
- Probe angle: **0**
- Vapor DC: **1**
- Measurement mode: **Liquid product level, solid product level or product level and interface level**

- Save these configuration changes and restart the device.



### 3.3 Verification test

- 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.
- Record the **distance value, internal temperature of transmitter** and **Rosemount VeriCase temperature**.
- Repeat the procedure in **2** for all six cable lengths in the Rosemount VeriCase.
- Once the verification is complete, restore the original configuration by uploading the backup file to the transmitter. Select **Device -> Upload Config from File...** and reload the file saved (see [Configure device for verification](#)).



- After the backup has been restored, disconnect power and communication to the transmitter.

## 4.0 Performing a verification on a Rosemount 3308 transmitter

### 4.1 Before you start

Record the serial number of the device from the nameplate located on top of the transmitter. Open Radar Configuration Tools and record the software revision of the device to be tested in the *verification data* tab of the workbook. This information can be found in the *setup* window under the *info* tab.



### 4.2 Verification procedure

#### Note

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

#### Configure device for verification

1. Save a memory map from the current device (this will need to be reloaded once the verification is complete) by selecting **Memory Map** from the left-hand menu. Select **Receive**. When the values have finished loading select **File** and **Save Memory**.

#### Note

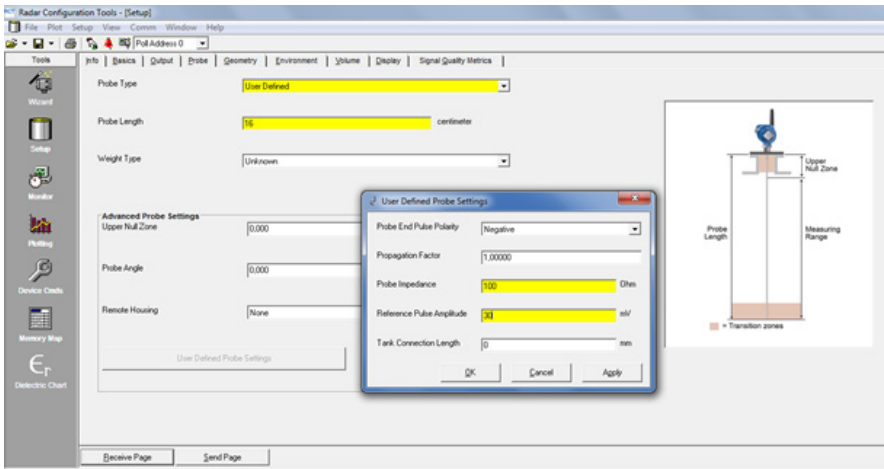
When reading a measurement value remember that the repeatability of a Rosemount 3308 is  $\pm 2\text{mm}$  (0,08-in.)

2. In the *Setup* window under the *Setup* menu, configure the following parameters for the transmitter that will be tested:
  - Probe type: **User Defined**

- Probe length: longest cable length **+50cm (20-in)**
- Probe Impedance: **100  $\Omega$**
- Reference Pulse Amplitude: **30mV**

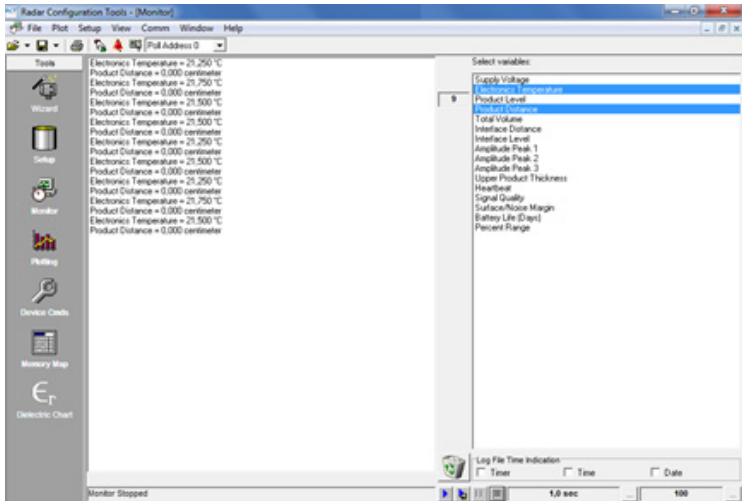
Make sure that the below parameters are set with the following values

- Propagation Factor: **1,000**
- Tank Connection Length: **0**
- Probe angle: **0**
- Vapor DC: **1**
- Measurement mode: **Liquid product level or product level and interface level**
  - Save these configuration changes and restart the device.



### 4.3 Verification test

1. Set the *Cable Switch* to position **1**. Open **Monitor** in the left-hand menu. Select **Product Distance** and **Electronics Temperature** and press play. Wait for the values to stabilize before taking a reading from the *Device Display* window in Rosemount Radar Master.
2. Record the **Product Distance value**, **Electronics Temperature** and **Rosemount VeriCase temperature**.
3. Repeat the procedure in **2** for all six cable lengths in the Rosemount VeriCase.
4. Once the verification is complete, restore the original configuration by uploading the memory map to the transmitter. Select **File** from the top menu and **Open Memory Map**. When the values have loaded select **Send** to reload the configuration file saved (see [Configure device for verification](#) ).



- After the configuration has been restored, disconnect communication to the transmitter.

## 5.0 Generating 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 by selecting the corresponding generate report buttons located at the bottom of the verification data tab and the Q4 data tab respectively. In order to generate a Q4 certificate the analog output of the transmitter under verification should be tested at 4mA, 12mA and 20mA and the results saved in the Q4 data tab before generating the certificate.



## 6.0 Appendix

### 6.1 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) will be required as a FOUNDATION Fieldbus modem is not built in to the Rosemount VeriCase.

**Q:** What do I do if a device fails?

**A:** Check that 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 with other level instrumentation, providing all details of the testing, including results and backup files.

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

**A:** Refer to the Rosemount 5300 PDS 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:** This is the offset generated from using the Rosemount VeriCase rather than a probe. This is compensated for automatically and there is no need for manual adjustments.

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

**A:** This is so the measurement can be reset to lock on to a new value without echo logic or filtering affecting the measurement.

**Q:** How often should Rosemount VeriCase be calibrated?

**A:** Once a year or if 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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