

Rosemount™ 965 Flame Detector

With HART® Protocol



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1 Introduction

This manual describes how operators can use HART® handheld field communicators to configure the Rosemount 965 Flame Detectors to suit customer needs, perform firmware upgrades, and find troubleshooting information and functionality.

This manual also describes the HART® handheld communicator software and provides instructions on how to install, operate, and maintain the software.

2 Installation

2.1 Download the HART® Device Driver (DD)

To download the HART device driver:

Procedure

1. Go to [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).
2. Using the site navigation, go to the relevant product page.
3. Scroll down to **Documents and Drawings**.
4. Click **SOFTWARE DOWNLOADS & DRIVERS**.
5. Download the relevant file.

2.2 Load DD on HART® handheld communicator

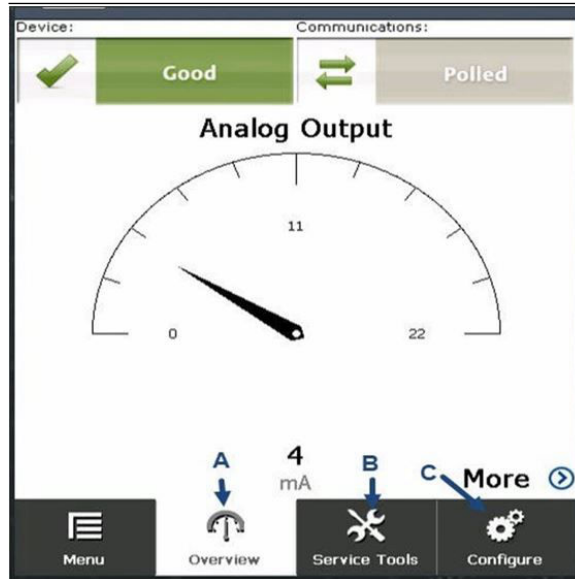
Procedure

1. Refer to the relevant HART handheld device instructions.
2. Load the DD on the HART handheld communicator.
3. Select **Setup**.

3 Operating the HART® handheld communicator

Main screen:

From the main screen, there are three options:



- A. Overview: Opens **Overview** screen.
- B. Service Tools: Opens **Service Tools** screen.
- C. Configure: Opens **Configure** screen.

3.1 Overview screen

The **Overview** screen gives a summary of the device information.



- A. Device Status: Available options are **Good**, **Failure**, and **Maintenance Required**.
- B. Comm Status: Displays communication method. This is polled.
- C. Analog Output: Displays a value between 1 mA and 20 mA when the device is turned on.
- D. Fire Detection Status: Indicates whether the device has detected fire. Available options are **None** and **Detected**.
- E. Manual Built-In-Test: Click to perform built in test.
- F. Locate Device: Click here to make the device Light-Emitting Diode (LED) blink to locate a connected device.
- G. Log: Shortcut to **Log** screen.
- H. Device Information: Displays **Device Information** screen. When the **Device Information** screen is opened from the **Overview** screen, all fields are read-only.

3.2 Device information screen



- A. Identification: Opens **Identification** screen.
- B. Revisions: Opens **Revisions** screen.
- C. Security: Opens **Security** screen.

3.2.1 Identification screen

The screenshot shows the Identification screen with the following fields and values:

Label	Field	Value
A	Tag	
B	Long tag	
C	Model	965
D	Final assembly num	0
E	Dev id	2154599
F	Date	01/20/2025
G	Descriptor	
H	Message	
I	Model Number	965MR

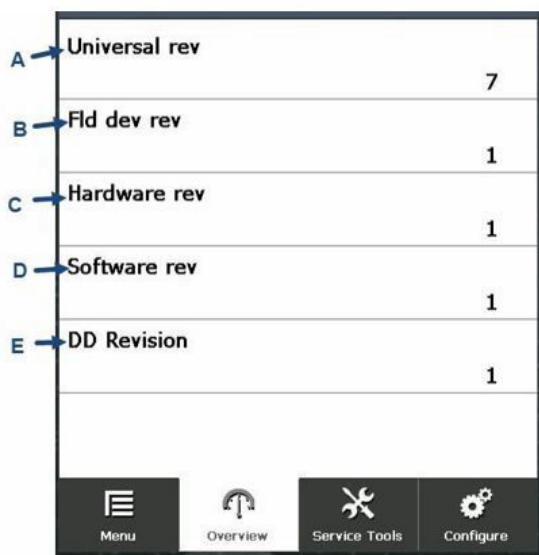
At the bottom of the screen is a navigation bar with four icons and labels: Menu, Overview, Service Tools, and Configure.

- A. Tag
- B. Long tag
- C. Model
- D. Final assembly num (Final assembly number)
- E. Dev id (Device identification)
- F. Date
- G. Descriptor
- H. Message
- I. Model number

Note

When the **Identification** screen is accessed from the **Overview** screen, all fields are read-only.

3.2.2 Revisions numbers screen



A	Universal rev	7
B	Fld dev rev	1
C	Hardware rev	1
D	Software rev	1
E	DD Revision	1

Menu Overview Service Tools Configure

- A. Universal rev: Universal revision
- B. Fld dev rev: Field device revision
- C. Hardware rev: Hardware revision
- D. Software rev: Software revision
- E. DD Revision: Device driver revision

3.2.3 Security screen



A	Device is locked
B	Password Protection
	Disabled

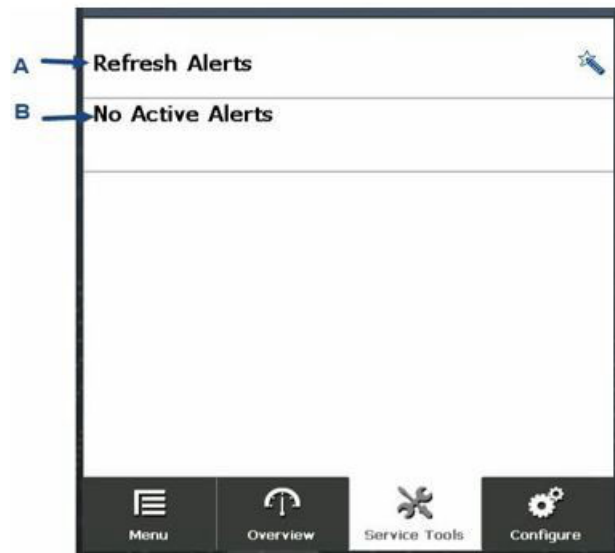
Menu Overview Service Tools Configure

- A. Device lock status.
- B. Password Protection: Enabled or disabled.

3.3 Service tools screen

Note

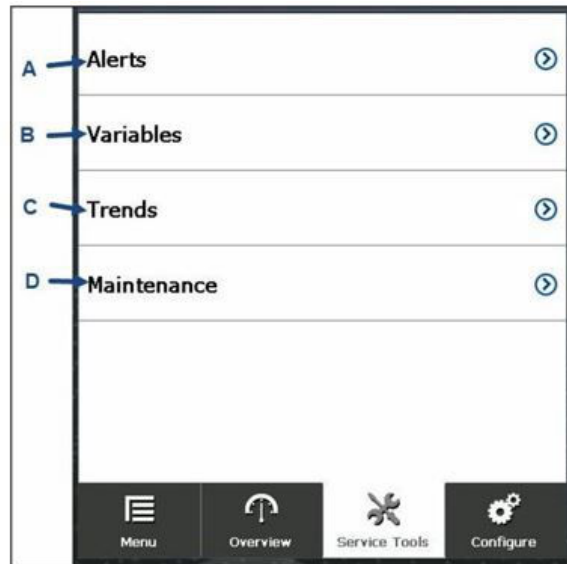
If the **Service Tools** screen provides links to sub-screens, then these may be used to view and edit service-related device parameters.



- A. Alerts
- B. Variables
- C. Trends
- D. Maintenance

3.3.1 Alerts screen

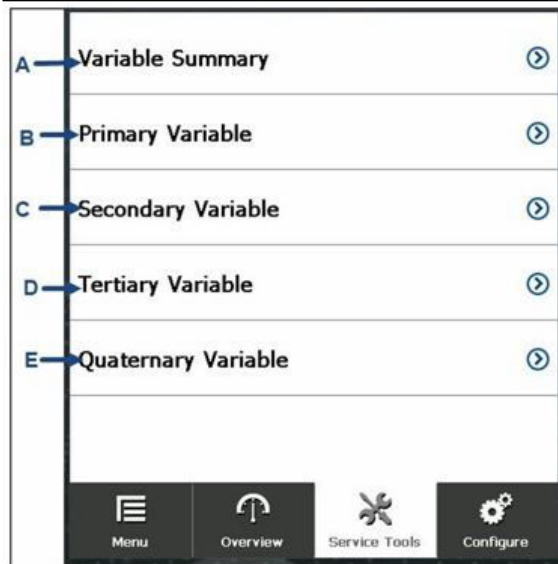
The **Alerts** screen provides information about device alerts and enables active alerts to be reset.



- A. Refresh Alerts: Tap to refresh alert status.
- B. Displays alert status: No Active Alerts in this example.

3.3.2 Variables screen

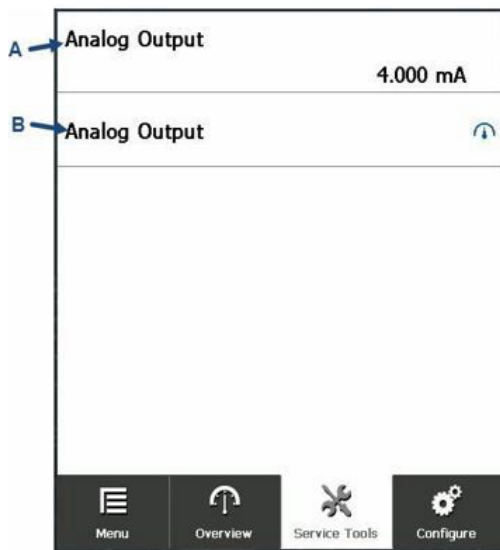
The **Alerts** screen provides information about device alerts and enables any active alerts to be reset.



- A. *Variable Summary: Displays a summary of all variables.*
 - Analog output
 - Electronic temperature
 - Supply voltage
- B. *Primary Variable: Opens screen where the analog output variables can be selected.*
- C. *Secondary Variable: Opens screen where the temperature-related variables can be selected.*
- D. *Tertiary Variable: Opens screen where the voltage-related variables can be selected.*
- E. *Quaternary Variable: Opens screen where the heater-related variables can be selected.*

3.3.3 Primary variable screen

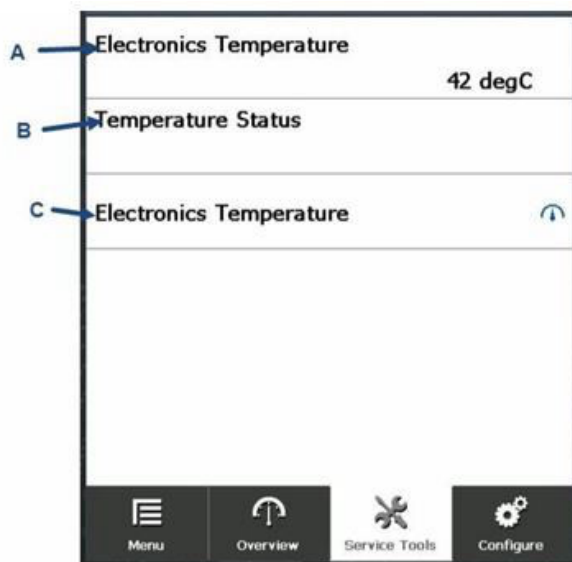
The **Primary Variable** screen displays the analog output.



- A. Analog Output: Displays analog output.
- B. Analog Output gauge: Tap to display **Analog Output Gauge** screen.

3.3.4 Secondary variable screen

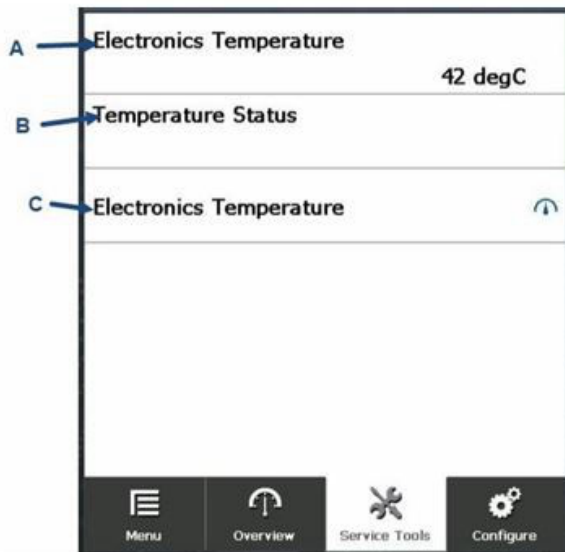
The **Secondary Variable** screen displays electronics information.



- A. Electronics Temperature: Displays electronics temperature.
- B. Temperature Status: Displays how well the temperature is being read.
- C. Electronics Temperature gauge: Tap to display **Electronics Temperature** gauge screen.

3.3.5 Tertiary variable screen

The Tertiary Variable screen displays voltage information.



- A. *Supply Voltage: Displays current supply voltage.*
- B. *Voltage Status: Displays how well the voltage is being read.*
- C. *Supply Voltage gauge: Tap to display the **Supply Voltage Gauge** screen.*

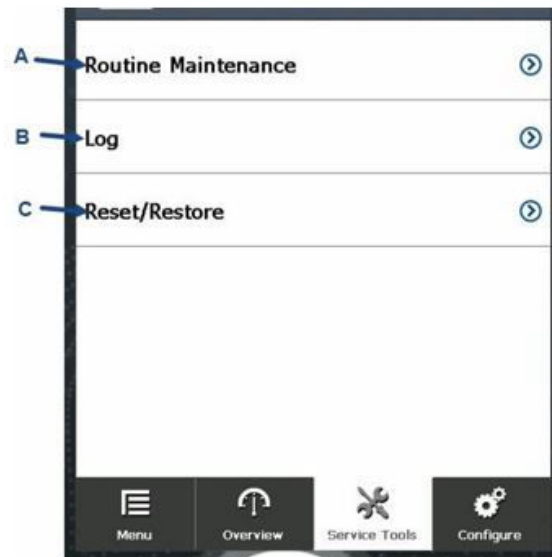
3.3.6 Trends screen

From the **Trends** screen, the variables can be viewed on a listed graph.



- A. *Analog Output: Displays the analog output on a graph.*
- B. *Electronics Temperature: Displays the electronics temperature on a graph.*
- C. *Supply Voltage: Displays the supply voltage on a graph.*

3.3.7 Maintenance screen



- A. Routine Maintenance: Opens screen with routine maintenance functions.
- B. Log: Opens screen with event logs.
- C. Reset/Restore: Opens a screen from which the detector can be reset.

3.3.8 Routine maintenance screen



- A. Manual Built In Test: Performs manual built-in test.
- B. Analog Trim: Calibrates 4-20 mA. With the analog trim function, the multimeter values can be rounded to a 4-mA fixed value. Tap **Analog Trim** and then enter and confirm the multimeter reading.

3.3.9 Log screen

The **Log** screen provides information about the logs and navigation options.



- A. Operating Time: Amount of time device has been powered up.
- B. Previous Log Records: Displays previous log records.
- C. Last Log Records: Displays the latest **Log Record** screen.
- D. Next Log Records: Displays the next **Log Record** screen.
- E. Device Log: Displays the log in a table.

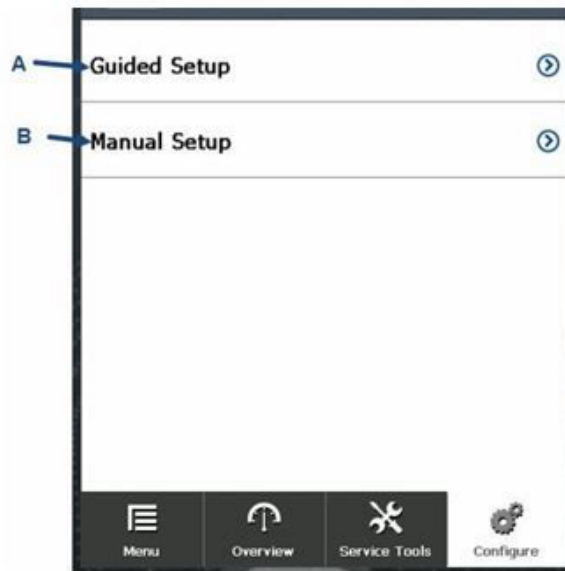
3.3.10 Reset/Restore screen



- A. Reset Device: Performs soft reset

3.3.11 Configure screen

From the **Configure** screen, the detector's parameters can be configured manually or by using the wizard.



A. *Guided Setup: Opens screen from which the parameters can be configured using the wizard.*

B. *Manual Setup: Opens screen from which the parameters can be configured manually.*

3.3.12 Guided setup screen

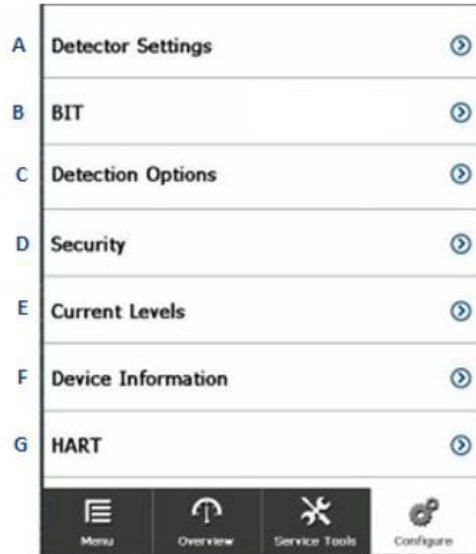
Use the **Guided Setup** screen to configure the device parameters using a wizard.



- A. *Configure Detector: Guides the user through detector configuration.*
- B. *Configure BIT: Guides the user through the Built-In Test (BIT) configuration.*
- C. *Detection Option: Guides the user through detector options configuration.*
- D. *Access Control: Guides the user through access control configuration.*
- E. *4-20 Current: Guides the user through the 4-20 mA current configuration.*
- F. *Device Information: Guides the user through detector information configuration.*

3.3.13 Manual setup screen

Use the **Manual Setup** screen to manually configure each of the detector's parameters.



- A. *Detector Settings*: Opens **Settings** screen.
- B. *BIT*: Opens **BIT Settings** screen.
- C. *Detection Options*: Opens **Detection Options** screen.
- D. *Security*: Opens **Security** screen.
- E. *Current Levels*: Displays levels.
- F. *Device Information*: Displays the **Device Information** screen. See [Device information screen](#).
- G. *HART*: Opens **HART Settings** screen.

3.3.14 Detector settings screen



- A. *Sensitivity*: Selects the sensitivity. See the options displayed in the Rosemount 965 Quick Start Guide.
- B. *Alarm*: Opens the **Alarm** screen.
- C. *Window Heater*: Opens **Window Heater Settings** screen.

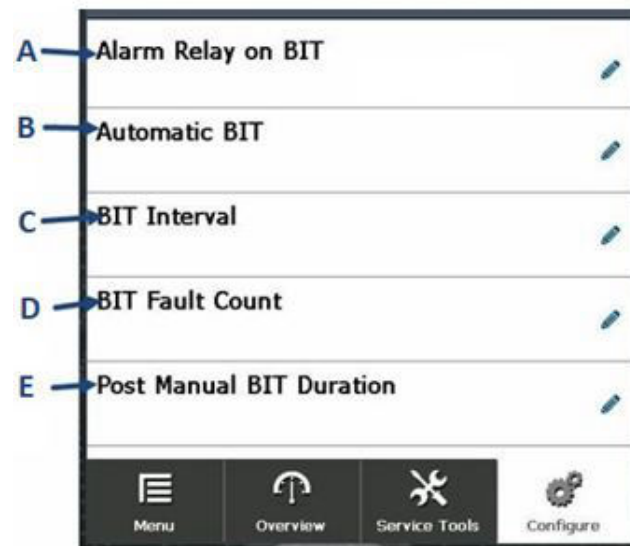
3.3.15 Alarm screen



- A. *Alarm Delay*: Select alarm delay. Options are: 0 sec, Antiflare, 3 sec, 5 sec, 10 sec, 15 sec, 20 sec, 30 sec.
- B. *Alarm Latch*: Activate or deactivate alarm latch.

3.3.16 BIT screen

Use this screen to define Built-In Test (BIT) settings.



- A. Alarm Relay on BIT: Activate or deactivate alarm relay on BIT.
- B. Automatic BIT: Activate or deactivate automatic BIT.
- C. BIT Interval: Manually select BIT interval.
- D. BIT Fault Count: Manually select BIT fault count.
- E. Post Manual BIT Duration: Set post manual BIT duration in seconds.

3.3.17 Security settings screen



- A. Device Lock Status: Displays device lock status.
- B. Lock/Unlock: Lock or unlock the detector for maintenance. No other device can configure the detector while it is locked.
- C. Password Protection: Displays password protection status.
- D. Enable/Disable Password: Enable password protection to prevent unauthorized access.

3.3.18 Current levels screen

A → Fault	1.0 mA
B → BIT Fault	2.0 mA
C → Normal	4.0 mA 
D → Warning	16.0 mA 
E → Alarm	20.0 mA 
 Menu  Overview  Service Tools  Configure	

- A. Fault: Current displayed during fault. This cannot be changed (1 mA).
- B. BIT Fault: Current displayed during built-in test (BIT) fault. This cannot be changed.
- C. Normal: Current displayed during normal function. 4 or 5 mA (should always be $\geq$ the FOV value). Default: 4 mA.
- D. Warning: Current displayed during warning. 13 - 16 mA (should always be lower than alarm value). Default: 16 mA.
- E. Alarm: Current displayed during alarm. 15 - 20 mA (should always be higher than warning). Default: 20 mA.

3.3.19 Device information screen



- A. Identification: Opens **Identification** screen.
- B. Revisions: Opens **Revisions** screen.
- C. Security: Opens **Security** screen.

3.3.20 Revision numbers screen



- A. Universal rev: Displays HART® revision number.
- B. Fld dev rev: Displays device revision number.
- C. Hardware rev: Displays hardware revision number.
- D. Software rev: Displays software revision number.
- E. DD Revision: Displays device driver revision number.

3.3.21 Device information screen



- A. Identification: Opens **Identification** screen.
- B. Revisions: Opens **Revisions** screen.
- C. Security: Opens **Security** screen.

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