



Handheld Diagnostic Tool



Rob Schulz | June 21, 2022

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HDT features and benefits

The Handheld Diagnostic Tool (HDT) is a compact and easy-to-use unit featuring a touch screen to manipulate, test, and monitor the loop in the field using live data in real time.

- The HDT is ideal for verifying new projects, troubleshooting existing installations, or testing retrofits
- It can be used to initialize the device loop before connecting to a control panel, or it can be used for diagnosis and troubleshooting after loop connections are made to the controller



Topics

- Loop initialization
- Loop restoration
- Map analysis
- Dirty level analysis
- Detector or module maintenance
- Single device diagnostics
- Loop history

MyEddie web address change



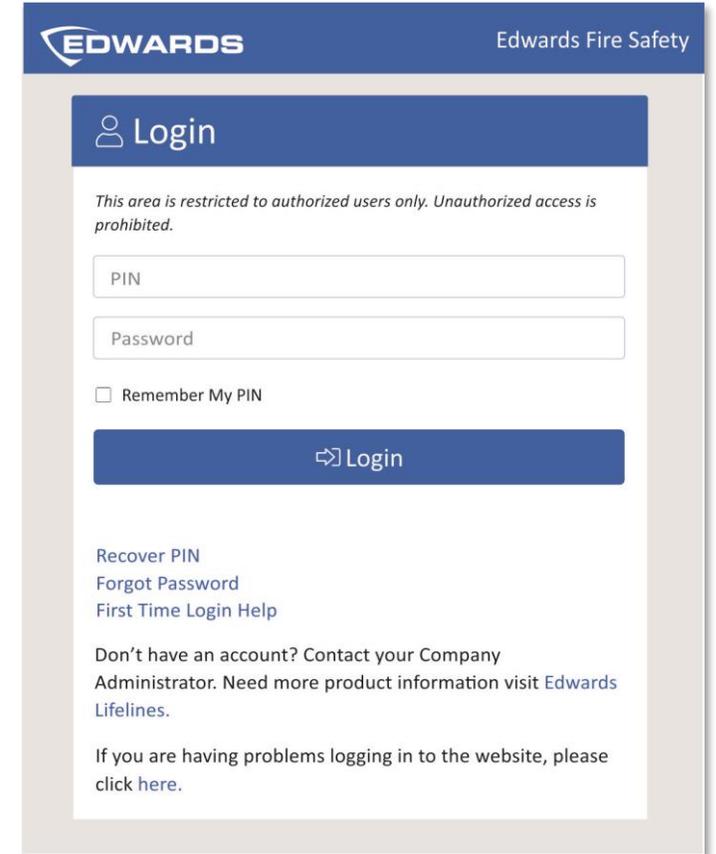
What does this mean?

The new URL for MyEddie is <https://myeddie.edwardsfiresafety.com> instead of <https://myeddie.edwardsutcfs.com>.

-  Bookmark the new address
-  Share the new address with your team and colleagues
-  Update your records with the new URL

If you have any questions or need clarification, please contact the Edwards Sales Operations team at edwards.fire@carrier.com.

Scan the QR code
to visit the new address



EDWARDS DEMO ACCOUNT (Edwards) - 82001344 Search For Products...

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Products


No image Available

HDT-BATT
Replacement Battery for SIGA-HDT. 3.6V,2200mAh Lithium-Ion 50mm x 37mm x 10.5mm

Current Pricing

Available Quantity: **29**

[Media](#)

[Key Features](#)



SIGA-HDT
Signature handheld diagnostic tool for Edwards/EST branded Signature detectors. Package contains handheld unit, charger, cable, USB flash drive with PC application and user guide.

Current Pricing

Available Quantity: **7**

[Media](#)

Catalog Sheets
E85001-0655 -- Signature Series Diagnostic Tool

Installation Sheets
SIGA-HDT Signature Handheld Diagnostic Tool

Manuals
SIGA-HDT User Guide
SIGA-HDT Map Fault Diagnostics Application Guide

Software
KI-HDT/SIGA-HDT Firmware, Display
SIGA-HDT Firmware, Interface
SIGA-HDT Software, Computer

Software Release Notes
SIGA-HDT V1.80 Release Notes

Files on MyEddie

Download the following:

- KI-HDT/SIGA-HDT Handheld Diagnostic Tool
- HDT User Guide
- HDT Map Fault Diagnostics Application Guide
- KI-HDT/SIGA-HDT Firmware, Display
- HDT Firmware, Interface
- HDT Software, Computer
- HDT V1.80 Release Notes



SIGA-HDT

Signature handheld diagnostic tool for Edwards/EST branded Signature detectors. Package contains handheld unit, charger, cable, USB flash drive with PC application and user guide.

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Media

Catalog Sheets

E85001-0655 -- Signature Series Diagnostic Tool

Installation Sheets

SIGA-HDT Signature Handheld Diagnostic Tool

Manuals

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SIGA-HDT Map Fault Diagnostics Application Guide

Software

KI-HDT/SIGA-HDT Firmware, Display

SIGA-HDT Firmware, Interface

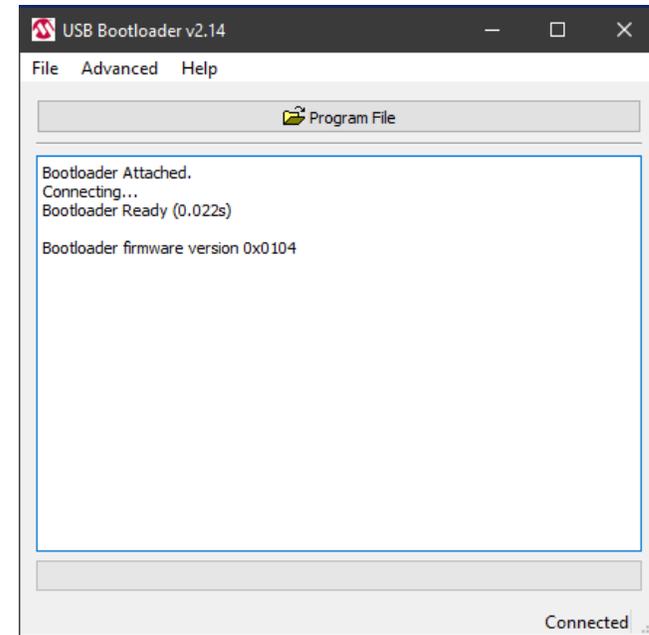
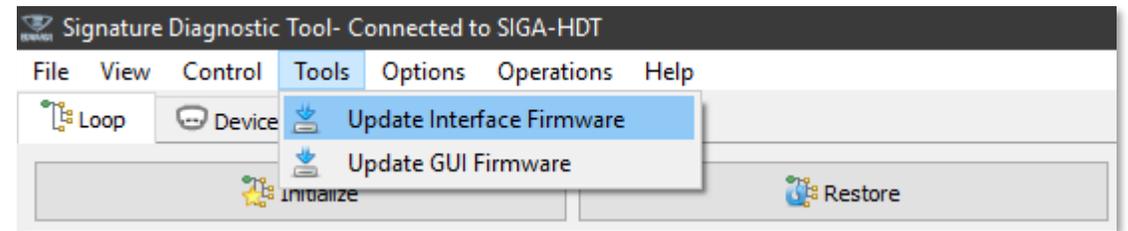
SIGA-HDT Software, Computer

Software Release Notes

SIGA-HDT V1.80 Release Notes

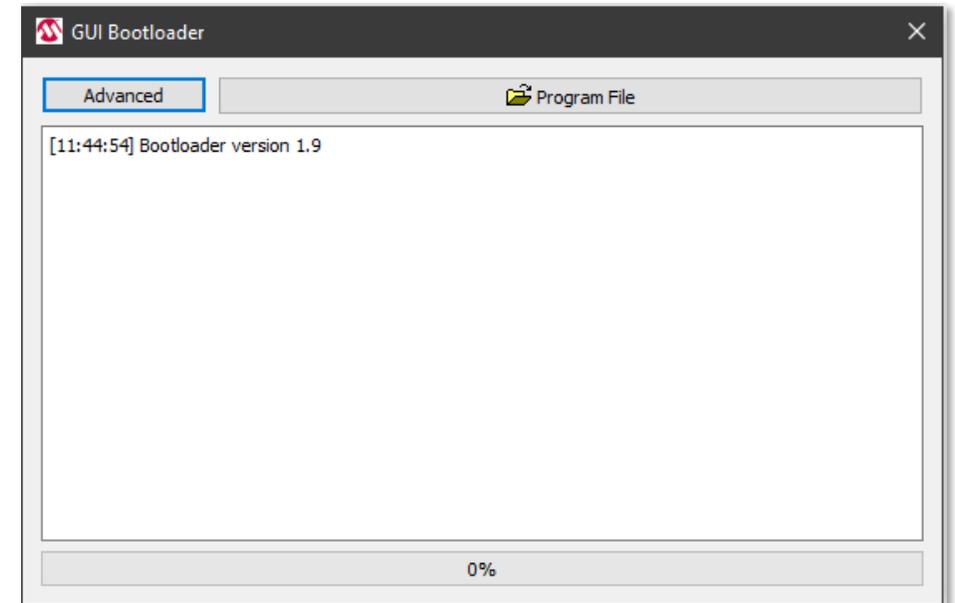
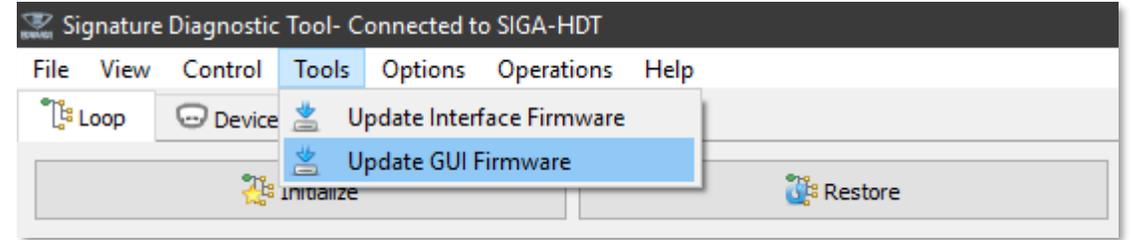
Update HDT

1. Install HDT Computer Software
2. Connect USB cable to computer and HDT with either supplied cable or a Micro-USB connection
3. Start Signature Diagnostics software
4. Update Interface Firmware
5. Select Program File button to browse to and select HEX file
6. When update is complete, HDT will reboot

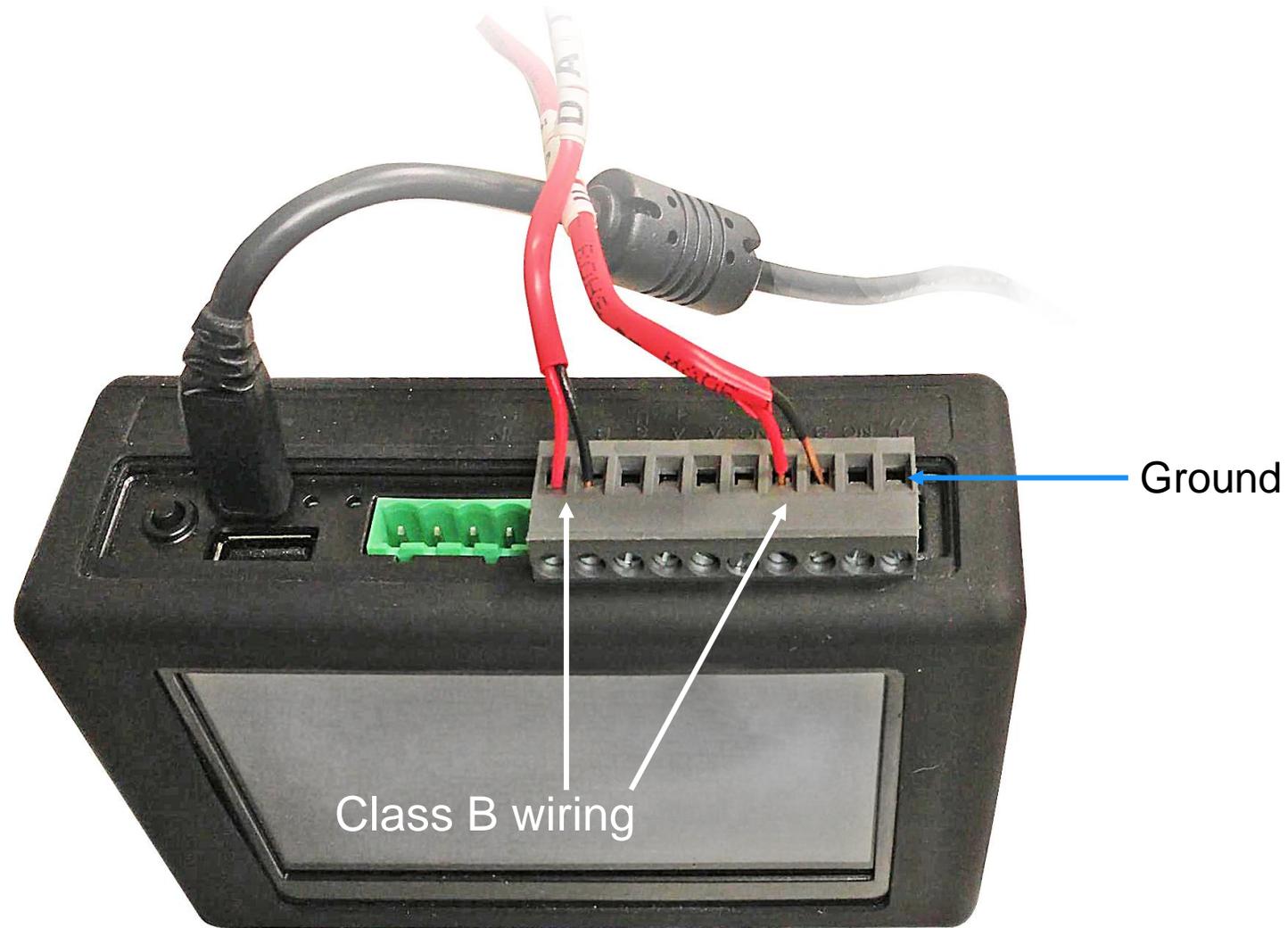


Update HDT

1. Update GUI Firmware
2. Select the Program File button to browse to and select the HEX file
3. The HEX file will update and the HDT should reboot



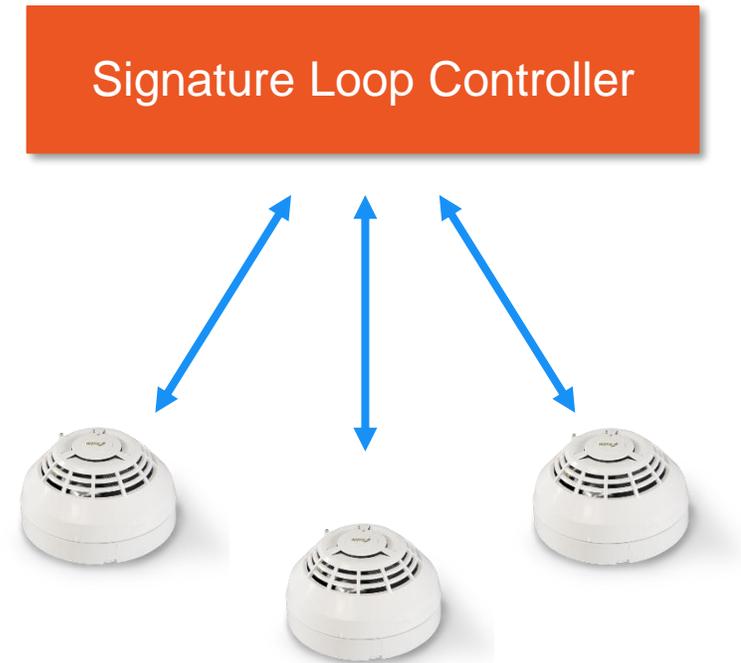
Wire connections



Mapping

Identify devices on the data loop

- The Signature Loop Controller asks for the highest serial numbered device in a New Start condition
- All Signature devices are shipped with a New Start Bit Set
- The Loop Controller communicates with each device until the device in a New Start condition with the highest serial number is determined



Identify devices on the data loop

- When the device with the highest serial number is identified, the Loop Controller resets its New Start Bit and assigns the device a short address
- The Loop Controller repeats this process for the next highest serial numbered device in a New Start Condition
- The Loop Controller continues this process until there are no devices in a New Start condition
- The Loop Controller has identified all devices in its circuit

Signature Loop Controller

1

2

3

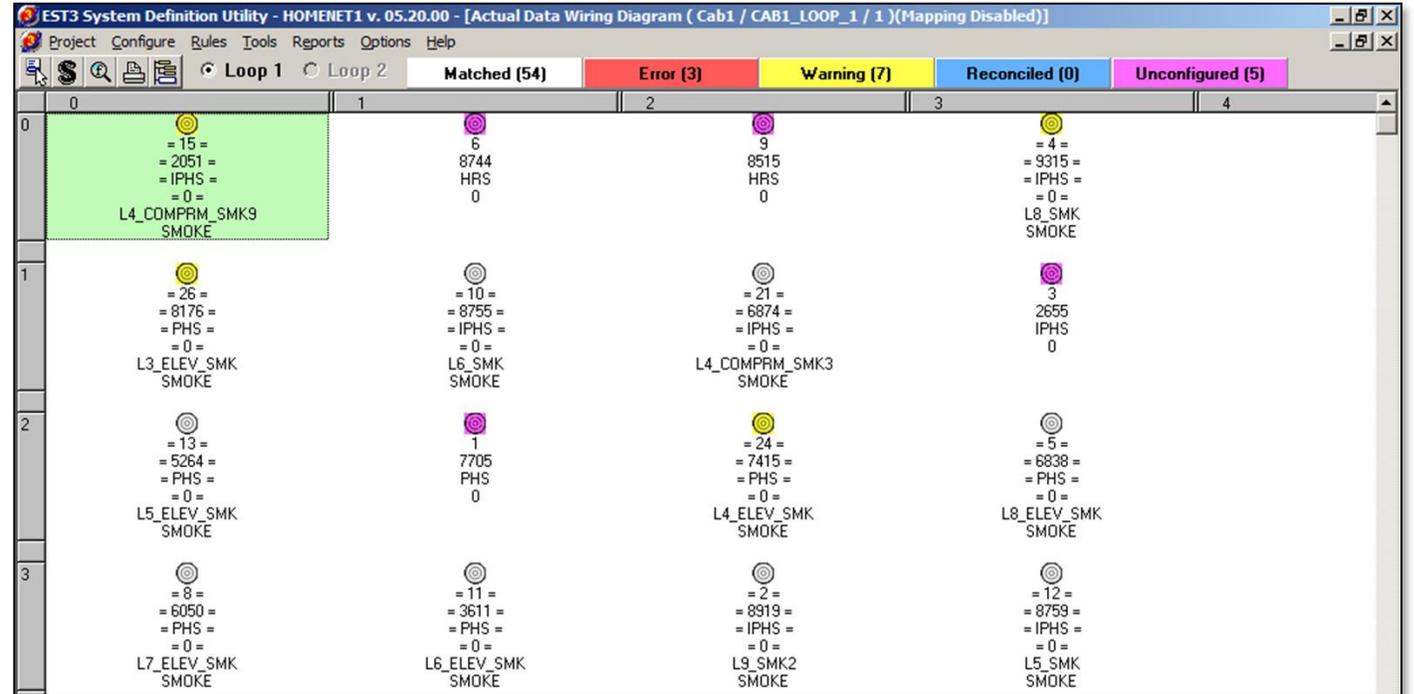
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Loop Controller develops path list

- When mapping is disabled, this is how the map displays
- All devices are in a straight line
- The Loop Controller knows what is on the circuit, but does not know the device's relationship with the other devices



Loop Controller develops path list

- A Path List is a list of all the devices located along the shortest electrical path between a selected device and the Loop Controller
- The Loop Controller calls each device, asking it to draw current and tracks the device's response back to the Loop Controller

Signature Loop Controller

1

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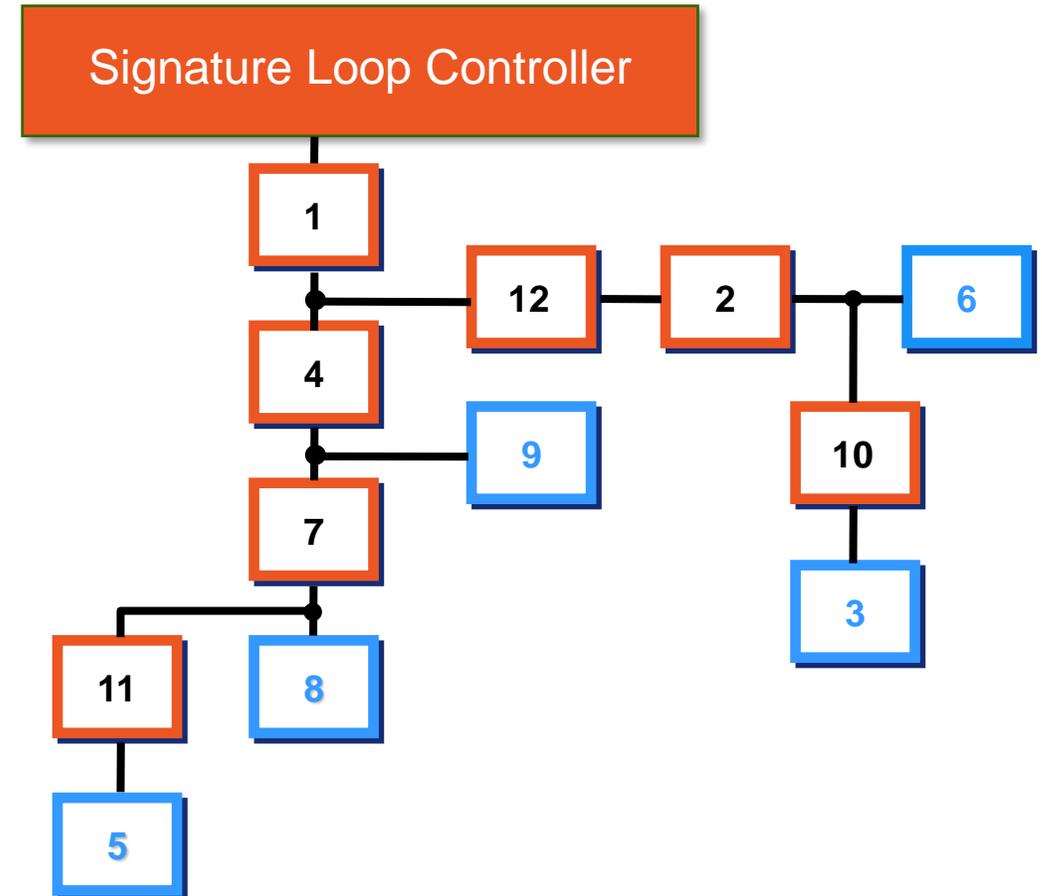
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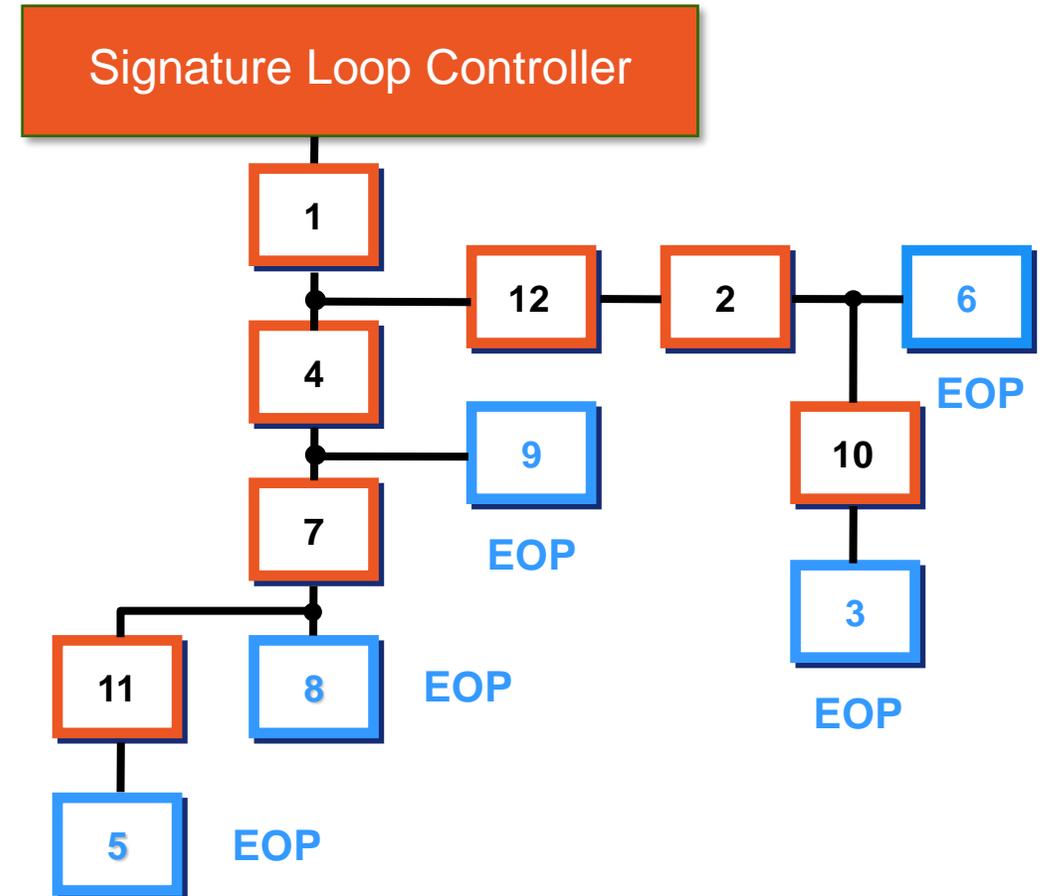
Signature Path List

- The Loop Controller performs this task by making each device, in turn, draw current
- When a voltage drop is sensed at the device's dropping resistor, it responds to the Loop Controller in the electrical path
- With a completed Path List, the Loop Controller begins to see the relative locations of each device on the Loop



Signature Path List

- The Loop Controller identifies the End-of-Path (EOP) Devices
- An EOP device is the last device on a branch
- Devices farthest from the Loop Controller on any given electrical path



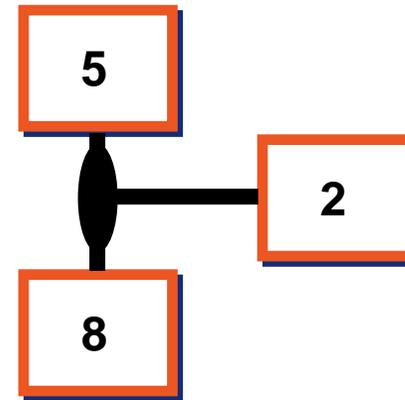
Signature Path List

A Signature Path List is a list of the series and branch connections along the shortest electrical path between each EOP device and the Loop Controller

A series connection is a single, untapped wire between two devices



A branch connection is a simple T-tapped wire between three devices



Map Fault Causes

Causes of Map Faults

- Loose wire connections on detector bases, module terminals, at the SLC card, or at a T-tap
 - Ensure connections are secure and the wire at a terminal is mechanically stable
 - Loose connections cause contact resistance variations due to temperature changes, and this results in an intermittent connection
- Over-tightening a detector base onto the back box, causing it to warp, resulting in bad or intermittent connections with the detector head
- Replacing like devices in a SLC that has been left balanced
- Replacing devices with models that differ from the ones removed
- Adding new devices onto an existing SLC
- Rewiring an existing SLC

Causes of Map Faults

- More T-Taps in the SLC than the maximum allowed for the system
- Resistance or capacitance in the field wiring in excess of that supported by the system
- Electrical noise or induced voltage
- Reversed polarity: connecting the SLC+ wire to the device SLC- terminal
- Corrosion on the detector base's spring clips, the detector head's contacts, or on the wire ends or screw terminals
- Dust or contaminants between the spring clips and contact
- Bent spring clips on the detector base
- Screw terminals that are loose or too tight
- Defective devices