Proof Test Coverage User Guide
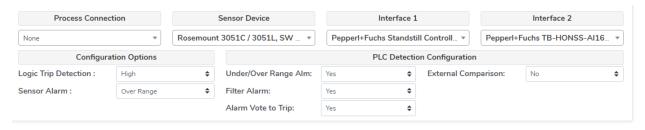
1. The Purpose of this tool to assist the user in determining the overall PTC to be used in the SILCalc tool. You will need the device certificate, operating manuals, safety manual, assessment reports, etc.. Depending on the certifying agency or vendor, the information needed may be found in one of these documents.

2. From the SILCals tool, select the devices for the sensor or final element group).

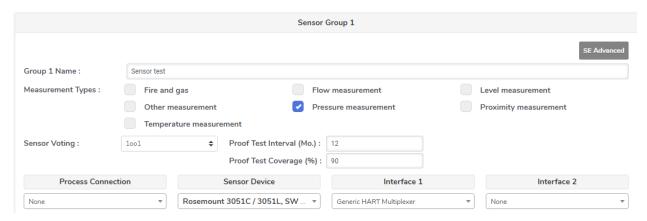| Process Connection	Sensor Device	Interface 1	Interface 2
None	Rosemount 3051C / 3051L, SW ...	Pepperl+Fuchs Standstill Controll...	Pepperl+Fuchs TB-HONSS-AI16...

In this example, the Rosemount 3031C was selected for the sensor and a generic HART Multiplexer

3. Now select the appropriate device and logic configuration settings for your design.

Process Connection	Sensor Device	Interface 1	Interface 2
None	Rosemount 3051C / 3051L, SW ...	Pepperl+Fuchs Standstill Controll...	Pepperl+Fuchs TB-HONSS-AI16...

Configuration Options		PLC Detection Configuration			
Logic Trip Detection :	High	Under/Over Range Alm:	Yes	External Comparison:	No
Sensor Alarm :	Over Range	Filter Alarm:	Yes		
		Alarm Vote to Trip:	Yes		

4. Select the **SE Advanced** button

Sensor Group 1			
			SE Advanced

Group 1 Name :	Sensor test		
Measurement Types :	☐ Fire and gas	☐ Flow measurement	☐ Level measurement
	☐ Other measurement	☑ Pressure measurement	☐ Proximity measurement
	☐ Temperature measurement		
Sensor Voting :	1oo1	Proof Test Interval (Mo.) :	12
		Proof Test Coverage (%) :	90

Process Connection	Sensor Device	Interface 1	Interface 2
None	Rosemount 3051C / 3051L, SW ...	Generic HART Multiplexer	None

5. Note the DU values for each device. In the example interface 1 = 26, Interface 2 = 6 and the Sensor = 37

Advanced Data

Device Details

LEG1

| Process Connection | **Input Interface** | Sensor Device |

Device	DD	DU	SD	SU
Pepperl+Fuchs Standstill Controller (LB,SC = ON)	0	26	20	93
Pepperl+Fuchs TB-HONSS-AI16-TSHART-1620MA	0	6	109	21

| Process Connection | Input Interface | **Sensor Device** |

Device	DD	DU	SD	SU
Rosemount 3051C / 3051L, SW Rev 7.0 or above	0	37	356	0

6. From the device safety document, locate the amount of proof test coverage that can be claimed for each device. If the device is a Certified Device the supplier is required to provide this data to the end user. If the device is not required, the user will need to determine the value to use based on historical or general industry data.

7. On the Proof Test Calculator page, enter the data as defined.

Sensor Element		
Overall Proof Test Coverage	Normal	
	95.2%	
Element	DU (FITs)	PTC
Process Connection	0.0	0%
Sensor Device	37.0	92%
Interface 1	26.0	99%
Interface2	6.0	99%

8. In this example, a maximum value 95.2% can be used.

Proof Test Interval (Mo.) : 12

Proof Test Coverage (%) : 95.2

9.