Does Maretron offer quick setup instructions for the FFM100 in a dual diesel engine application?

699 Ron De Pastino August 18, 2020 FFM100 , N2KAnalyzer, N2KAnalyzer 0 10.92K

The prerequisite for using this guide requires the use of a Windows PC and Maretron's N2KAnalyzer program installed. The hardware required for Maretron device configuration is the USB100 or IPG100 Gateway connected to a powered N2K network with a FFM100s installed. Please note the DSM250/410/570 can provide the same configuration options as well, but only if the display is running firmware version 1.5.22 or higher.

Step 1

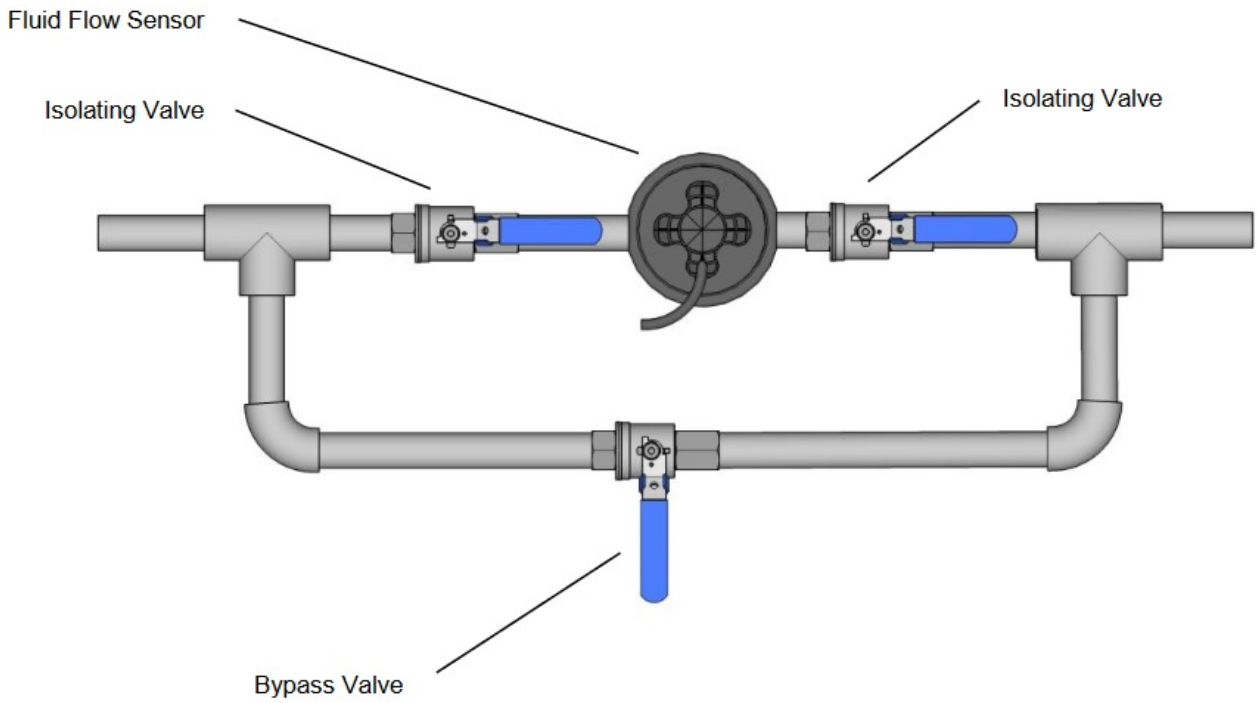
Identify the K-factor value for each sensor to be installed. K-factors are located on the sensors label as shown.

* Each sensor may be different, therefore identify appropriately for supply and return line side



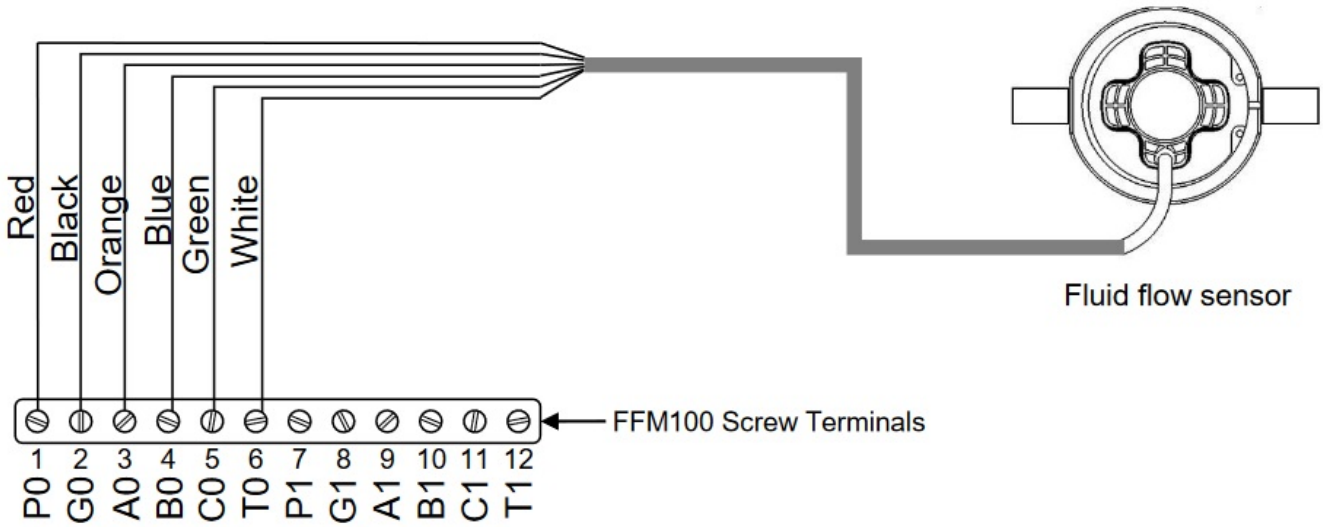
** Please be attentive to direction of flow stamped on product for proper installation

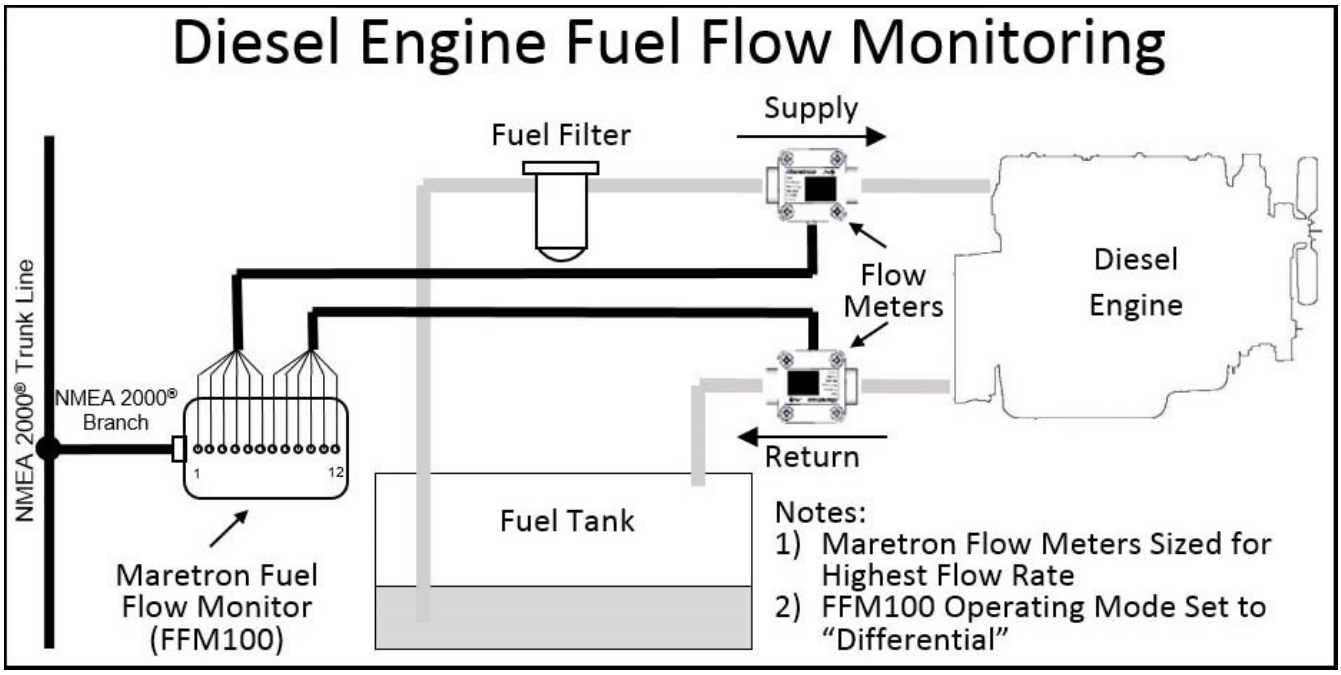
** Proper installation of fuel flow sensors should include a bypass setup for safety as pictured below



Step 2

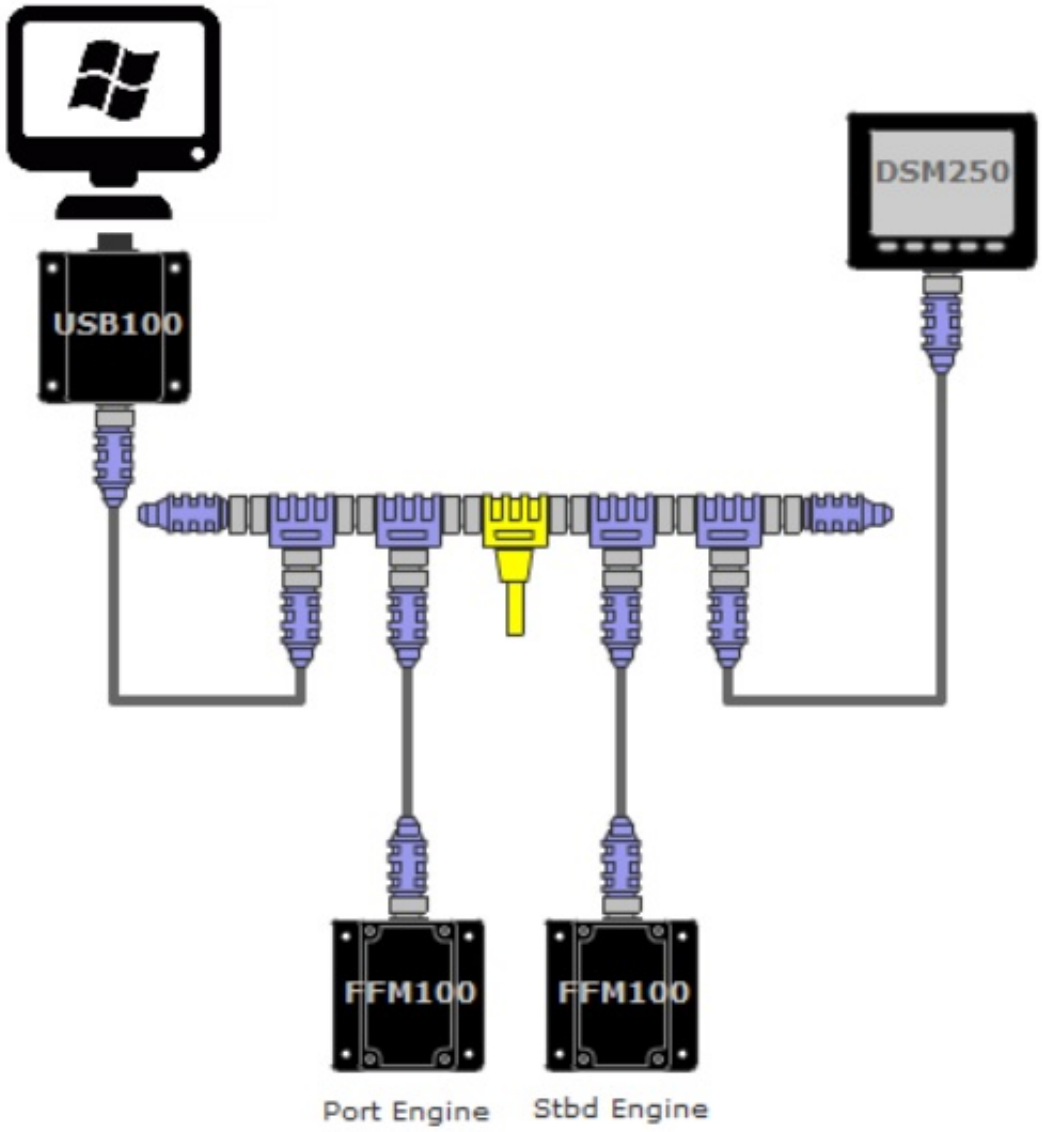
Connect your wiring to the appropriate channels as presented below (Supply 1-6, Return 7-12)





Step 3

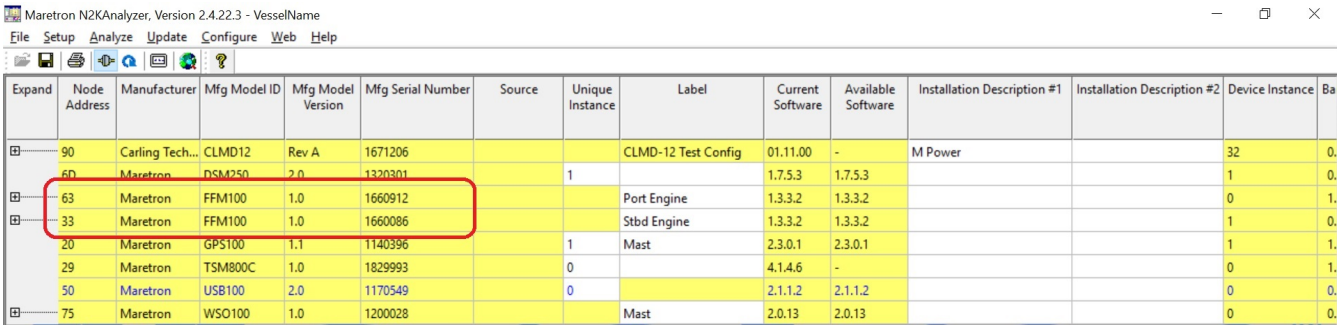
Connect your Maretron gateway (USB100 or IPG100) to the NMEA2000 network



Step 4

Open Maretron N2KAnalyzer and identify the Maretron FFM100 units by their Serial Number

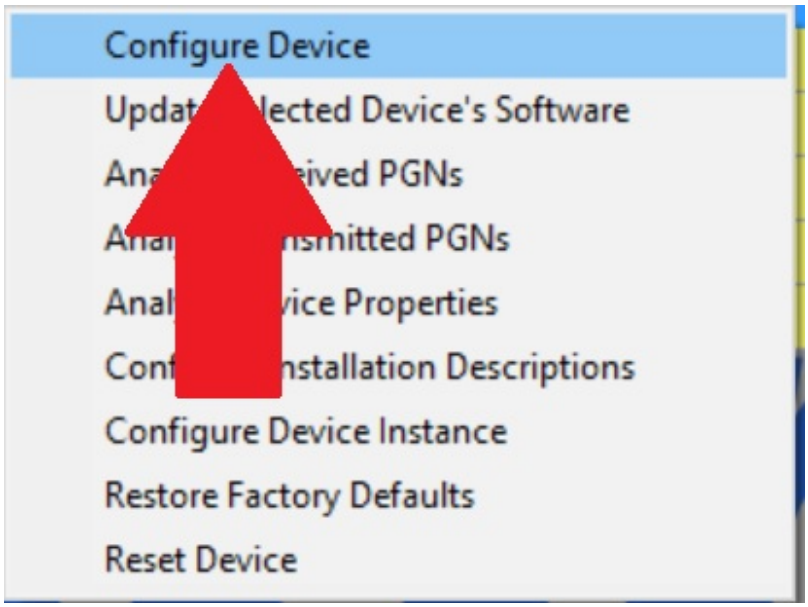




Expand	Node Address	Manufacturer	Mfg Model ID	Mfg Model Version	Mfg Serial Number	Source	Unique Instance	Label	Current Software	Available Software	Installation Description #1	Installation Description #2	Device Instance	Ba
⊞	90	Carling Tech...	CLMD12	Rev A	1671206			CLMD-12 Test Config	01.11.00	-	M Power		32	0.
	6D	Maretron	DSM250	2.0	1320301		1		1.7.5.3	1.7.5.3			1	0.
⊞	63	Maretron	FFM100	1.0	1660912			Port Engine	1.3.3.2	1.3.3.2			0	1.
⊞	33	Maretron	FFM100	1.0	1660086			Stbd Engine	1.3.3.2	1.3.3.2			1	0.
	20	Maretron	GPS100	1.1	1140396		1	Mast	2.3.0.1	2.3.0.1			1	1.
	29	Maretron	TSM800C	1.0	1829993		0		4.1.4.6	-			0	1.
	50	Maretron	USB100	2.0	1170549		0		2.1.1.2	2.1.1.2			0	0.
⊞	75	Maretron	WSO100	1.0	1200028			Mast	2.0.13	2.0.13			0	0.

Step 5

Identify the Port Engine Maretron FFM100, right-click and select **Configure Device**

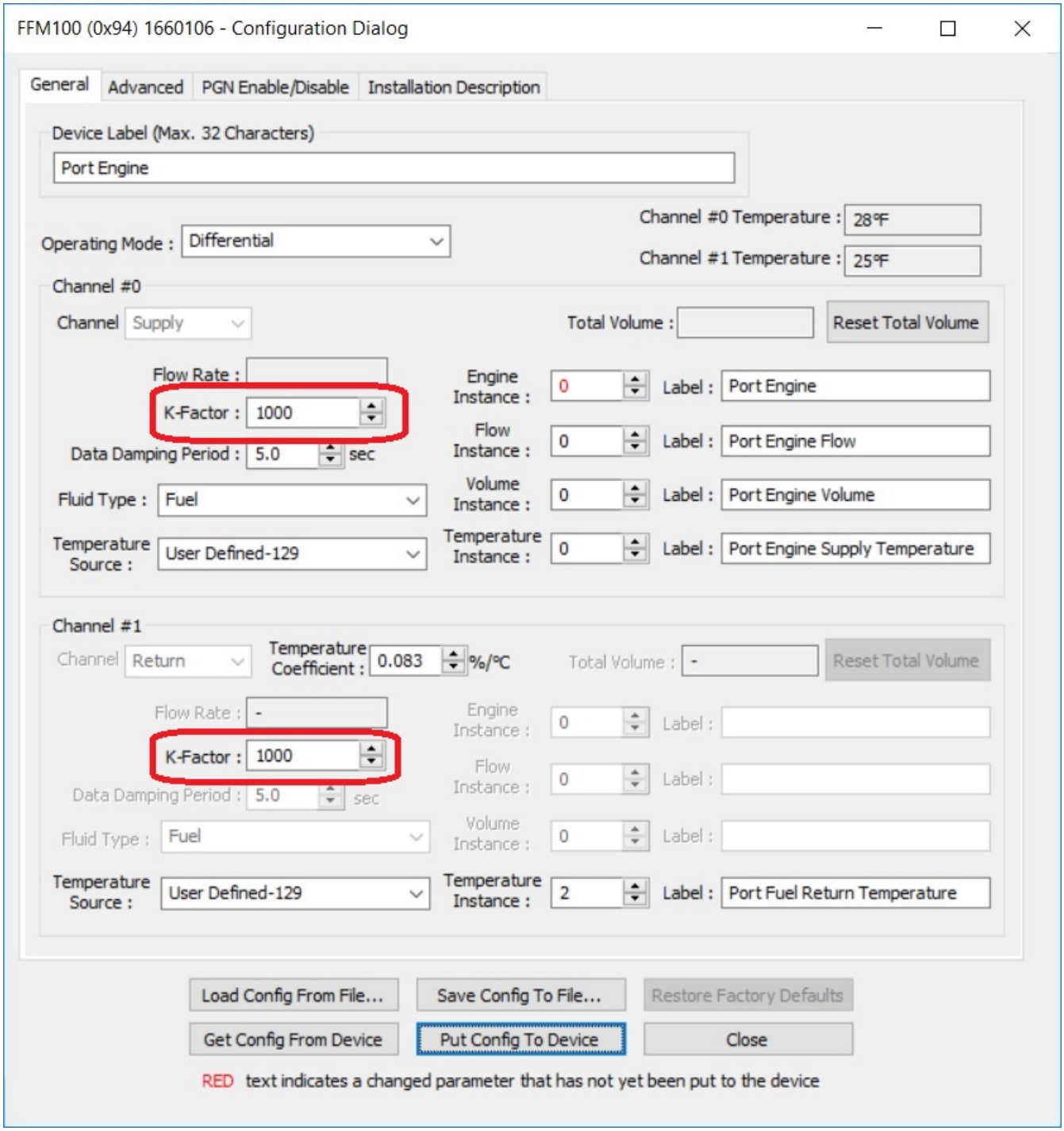


Step 6

Under the **General** tab, match your details to sample image below

- Operating Mode: **Differential**
- **Your** K-Factor values appropriately for the Supply (Channel # 0) and Return (Channel # 1)
- Fluid Type: **Fuel**
- Instances for Channel # 0 are all **0**, label appropriately
- Instance for Channel # 1 is **2**, label appropriately

- Temperature Source for both Channel # 0 and # 1: **User Defined 129**



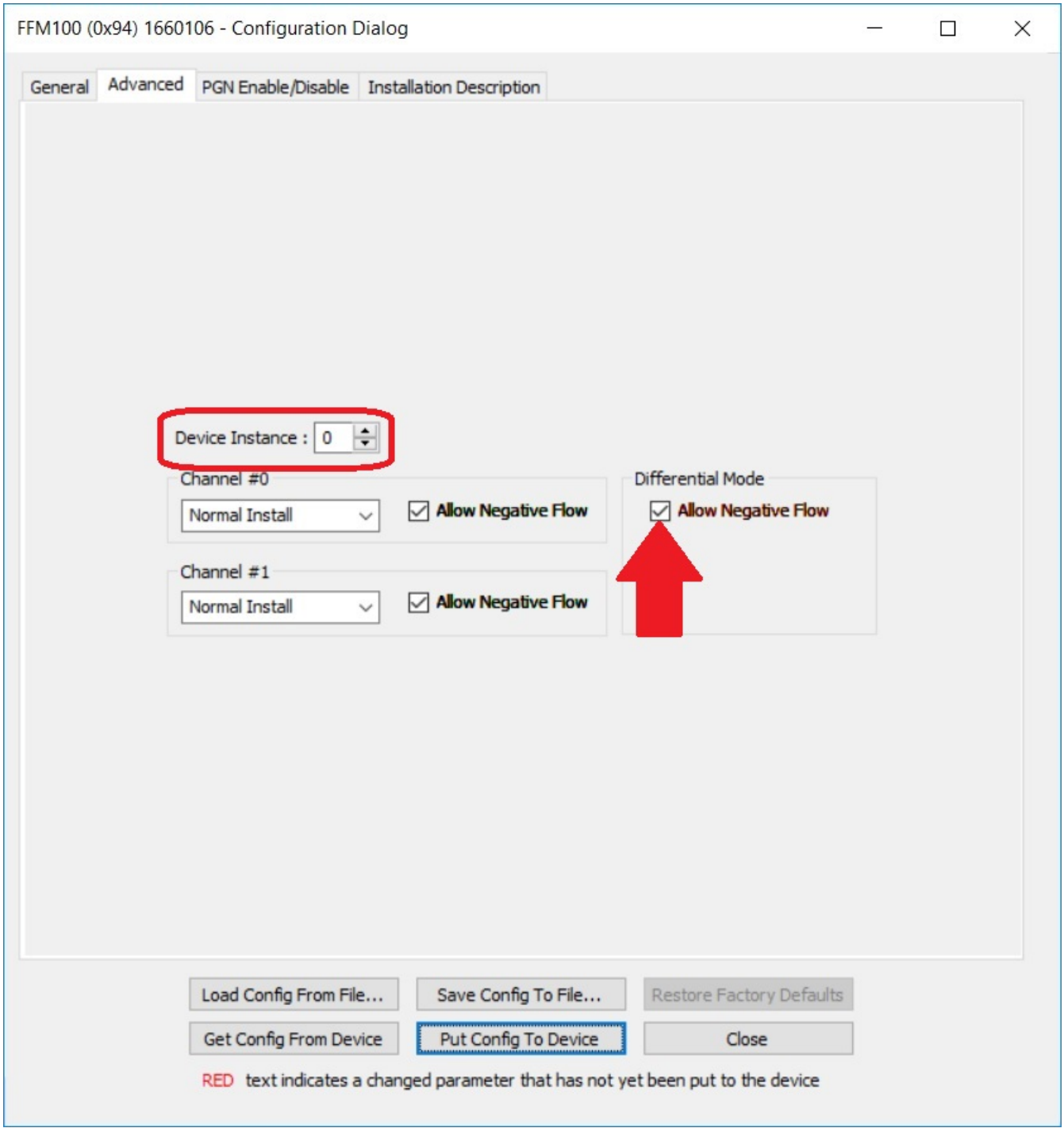
-

Step 7

Under the **Advanced** tab, match your details to sample image below

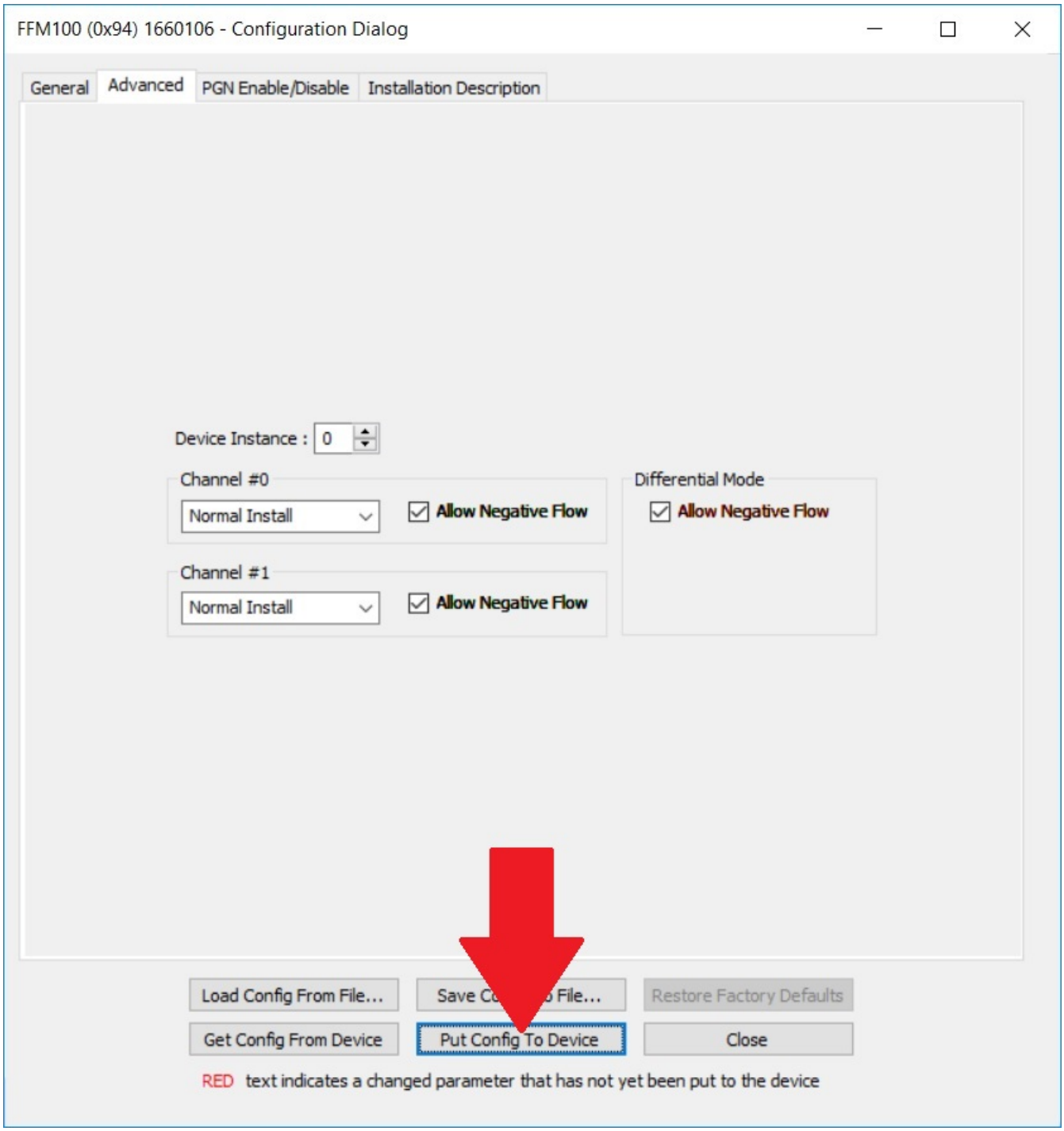
- Device Instance for Port Engine: **0**

- Allow Negative Flow in Differential Mode



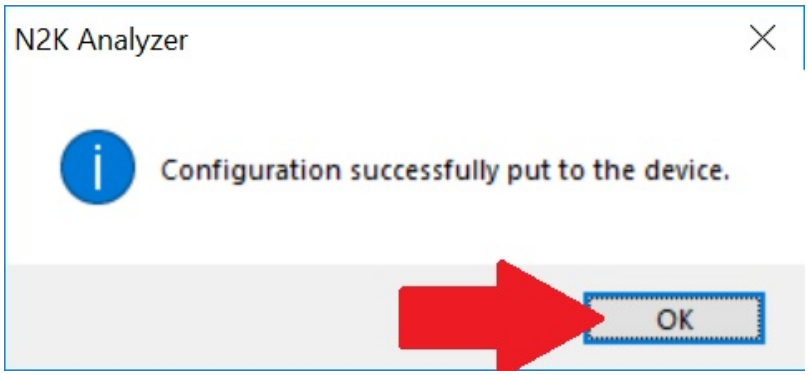
Step 8

Select option **Put Config To Device**



Step 9

You will receive a confirmation for applying the new configuration details, select **OK**

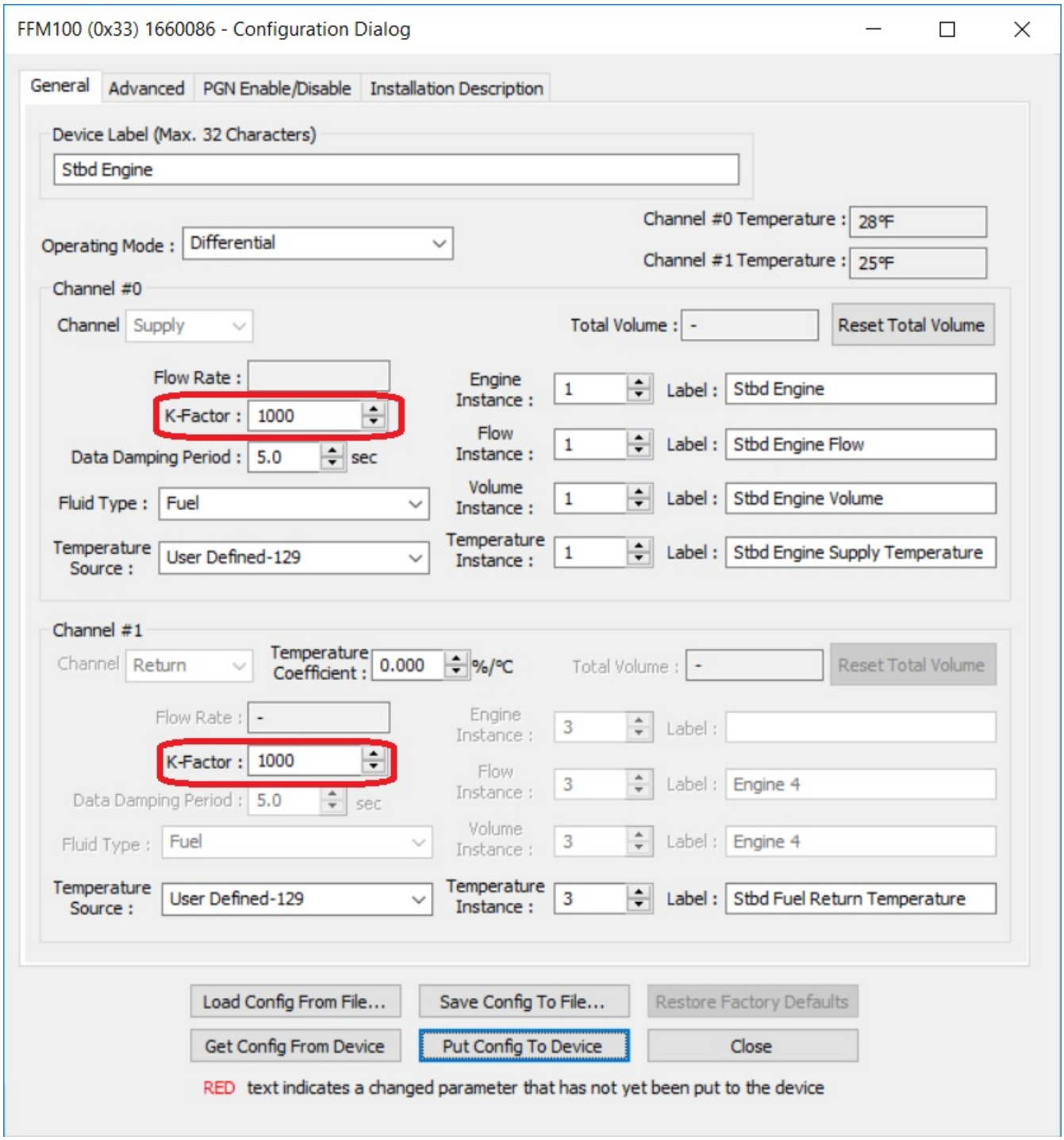


Step 10

Navigate back to your list of equipment on N2KAnalyzer and select to configure your Stbd Engine Maretron FFM100.

Under the **General** tab, match your details to sample image below

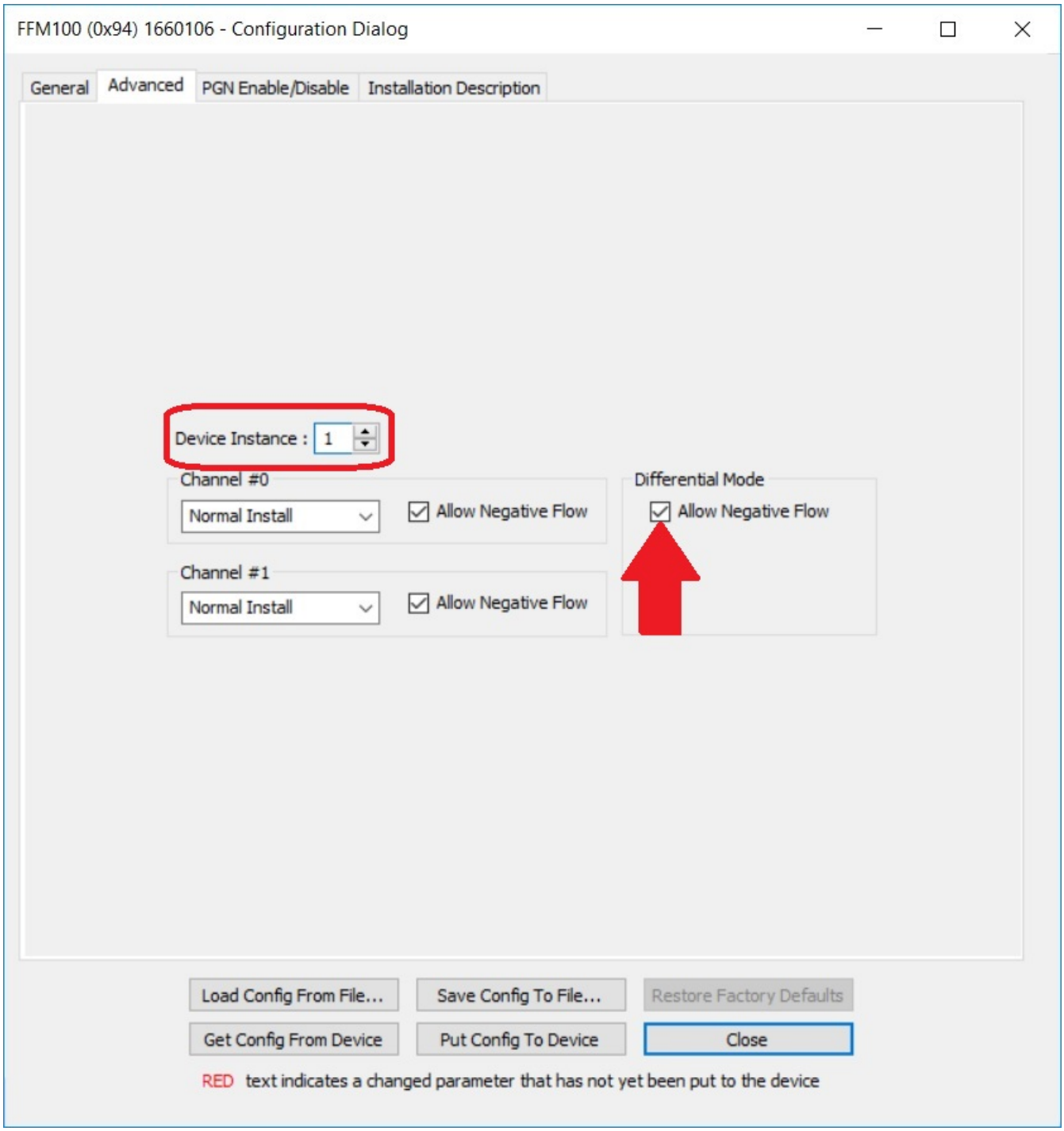
- Operating Mode: **Differential**
- **Your** K-Factor values appropriately for the Supply (Channel # 0) and Return (Channel # 1)
- Fluid Type: **Fuel**
- Instances for Channel # 0 are all **1**, label appropriately
- Instance for Channel # 1 is **3**, label appropriately
- Temperature Source for both Channel # 0 and # 1: **User Defined 129**



Step 11

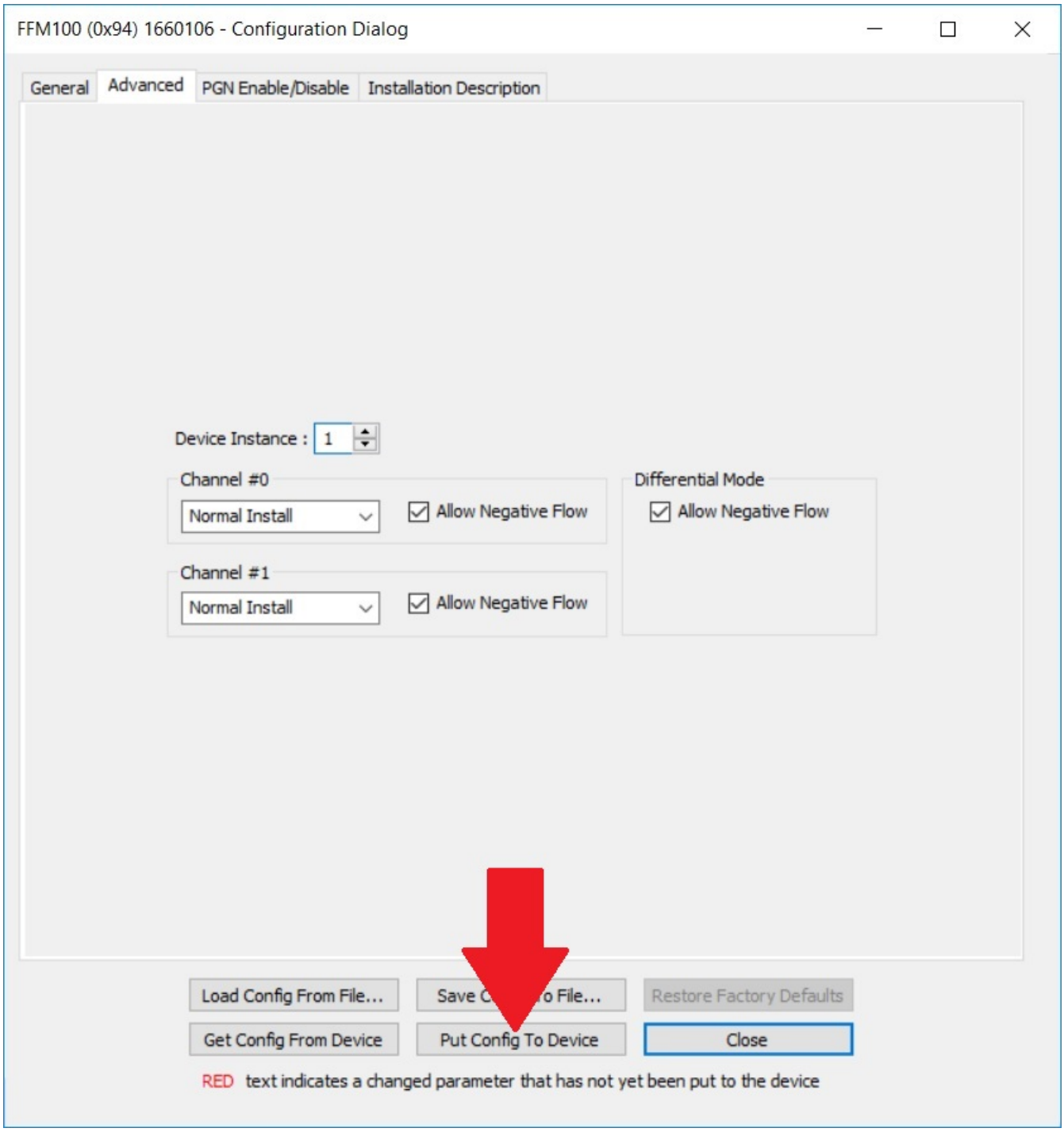
Under the **Advanced** tab, match your details to sample image below

- Device Instance for Stbd Engine: **1**
- ☐ Allow Negative Flow in Differential Mode



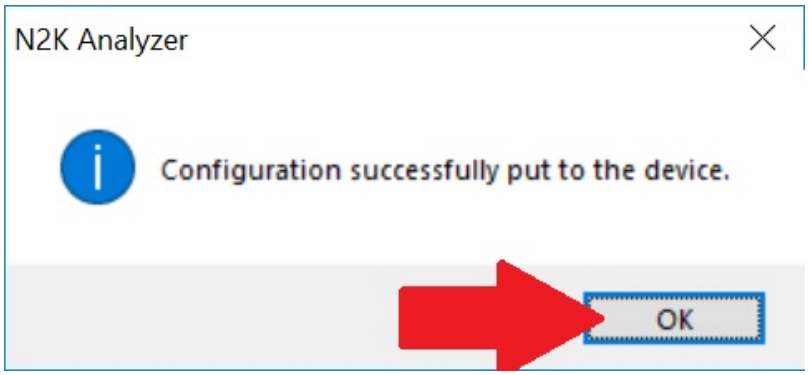
Step 12

Select option **Put Config To Device**



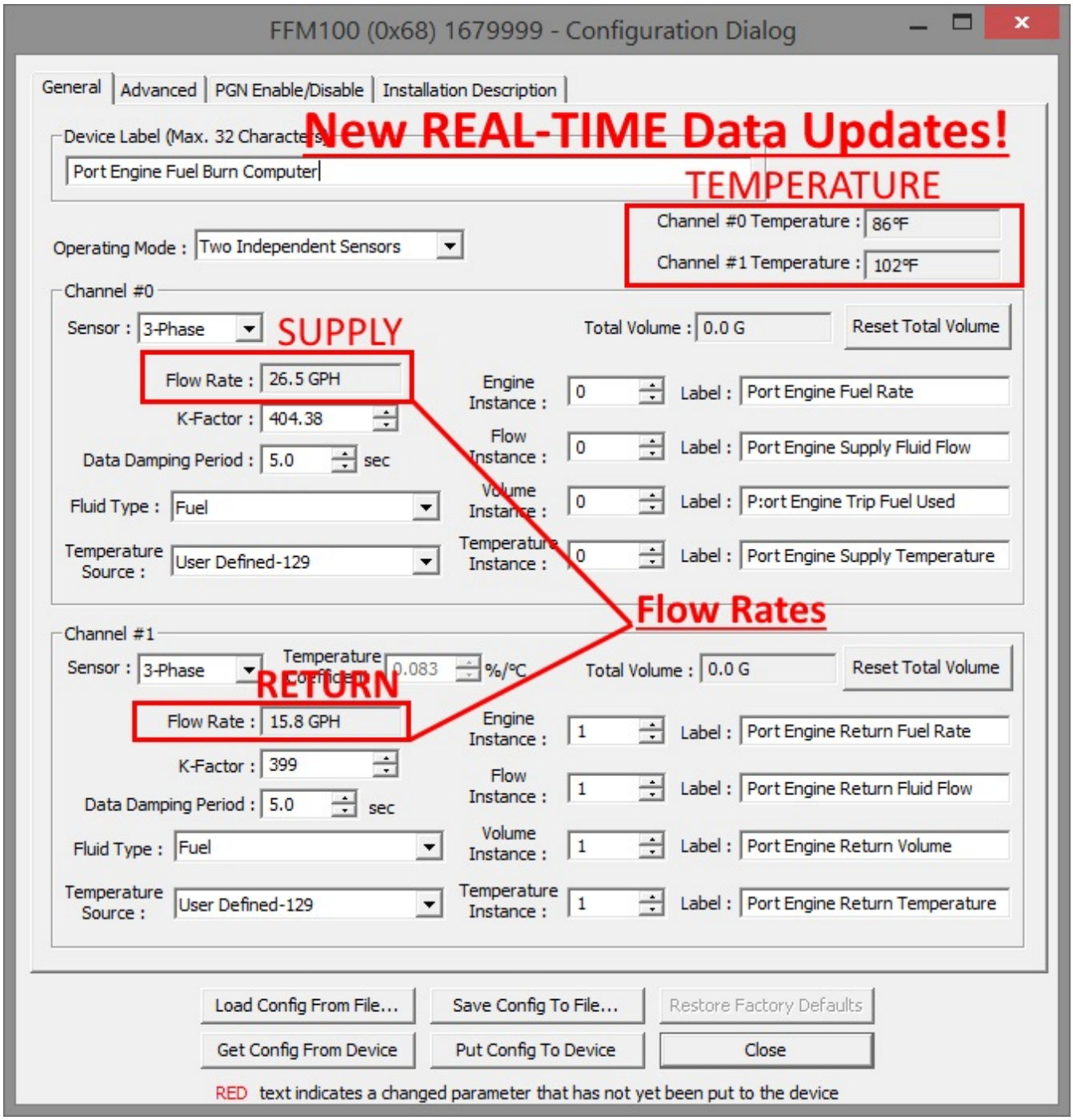
Step 13

You will receive a confirmation for applying the new configuration details, select **OK**

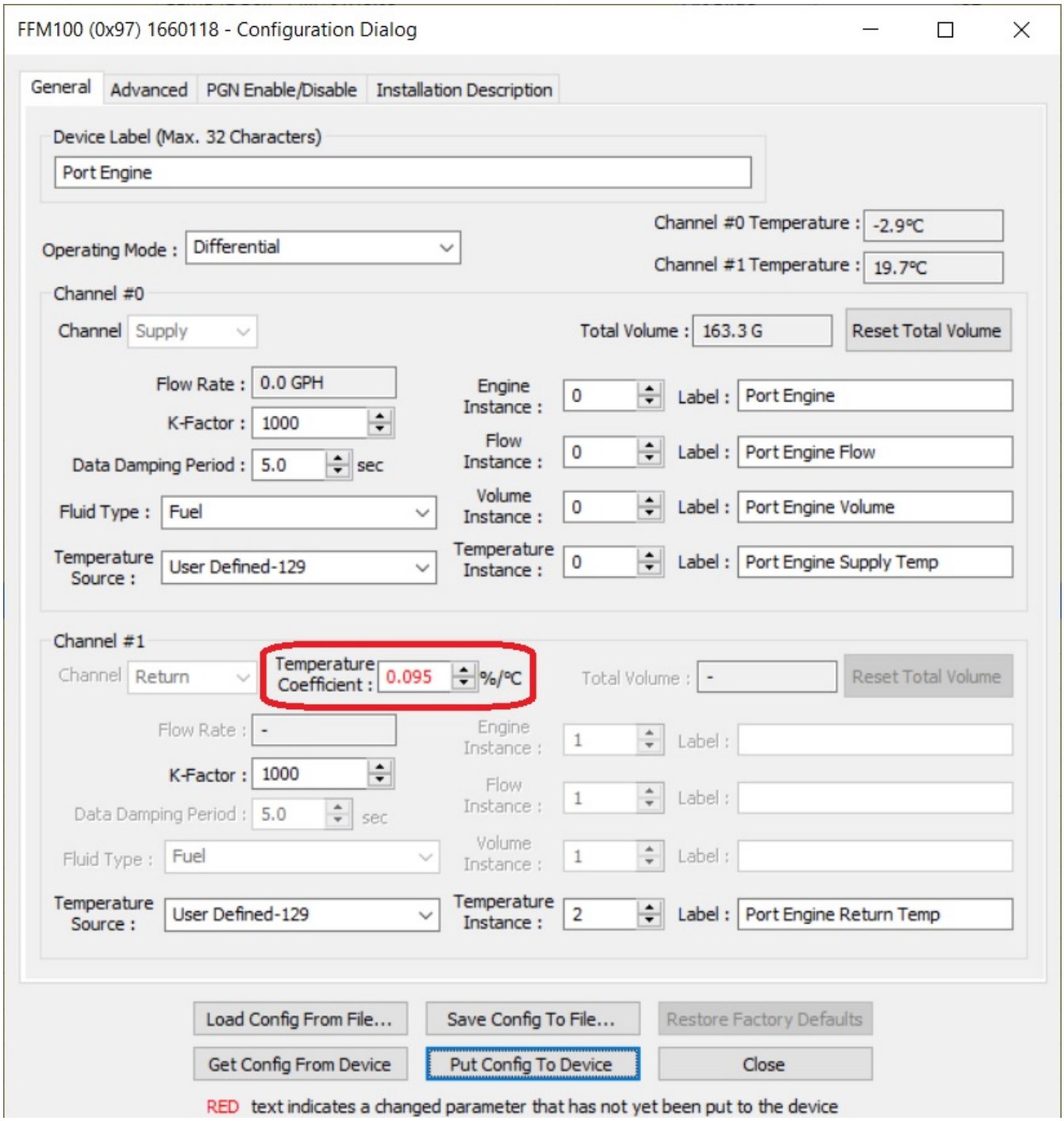


Step 14

After completing your configurations of both the Port and Stbd Engine FFM100 modules, with the engines running, you will now see real time data in the **Flow Rate** fields.



**** If you are using a gasoline engine with a return fuel line, please use temperature coefficient <u>0.095 %/°C</u> as illustrated below.**



Now that setup is complete examine data available from the FFM100 ie. fluid flow input and flow output during engine running operation.

Note:

- Both flow rates should be positive numbers.

- There should be more flow Supply (Channel # 0) than Flow return (Channel # 1).

- If you notice a negative flow rate: examine installation, specifically the orientation of fluid flow arrow located on the sensor lid.

Symptoms of erroneous fluid flow readings such as negative flow rates, more fuel returning to tank than sourced.

1. Check for Air in return fuel line: If air is used to cool fluid flow through the measured line this will cause a higher than expected fluid flow rate and adversely affect fuel burn.
2. Check that the Sensor wiring: Sensors wires are color coded and have a specific terminal designation. The sensor wiring template can be found in the FFM100 User's Manual, Sensors Installation Instructions, and under the FFM100 module cover. If cable extensions have been made color codes can possibly change depending on the cable extension that has been incorporated into the installation.

Erratic fluid flow rate values:

1. Fluid flow sensor selected is too large for the flow range of your engine causing the displacement gears to fluctuate.
2. Fluid Flow sensor sputtering due to restrictions in the fuel line such as fuel filter restriction, fuel line residue build up, or pressure drop exceeds the engine manufacturers specification.

Most common issues can range from the following application faults:

- Inadequate filtration causing poor sensor performance

- Sensor damage due to debris clogging or damaging sensor internals.

- Fluid pass through (no readings from sensor engine running)

- Sensor wiring issues

- Sensor installation reversed (wiring or physical)

For additional support or questions please contact Maretron Support at Support@Maretron.com or (866) 550-9100.

Online URL: https://maretron.com/wp-content/phpkbv96/article.php?id=699