

## FLXA2- pH Calculated System Set-up


This Tech Note is designed to assist you through the programming of the FLXA21 for calculated measurement set-up.

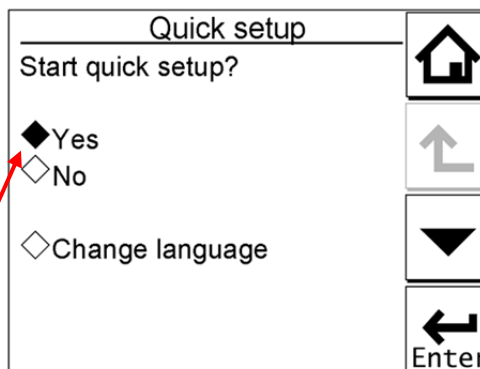
### Initial Set-Up

To program a new FLXA21 with 2 pH sensors at initial setup for a calculated output, follow steps 1-9. If you already are using an FLXA21 and now want to set up the instrument for a calculated measurement output please skip to the **After Installation** section, Step 10.

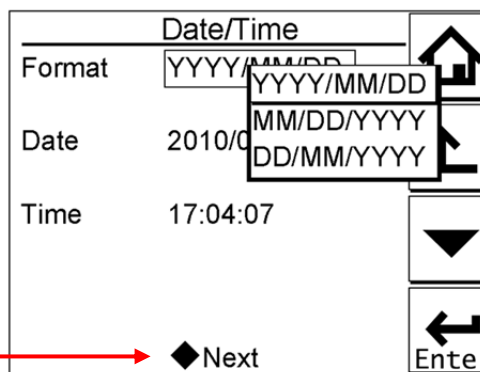
1.) After the transmitter is wired and powered on, during start up the display will show the FLEXA logo.



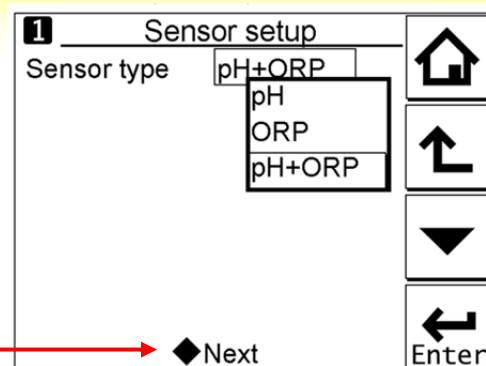
2.) The **Quick setup** screen will appear. Using either the the  scroll key and **Enter** key; or by clicking directly on the diamond next to **YES**, select it.



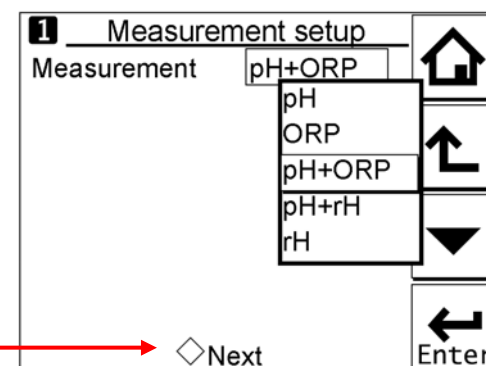
3.) Set the **Date/Time**, then select the diamond next to **NEXT**.



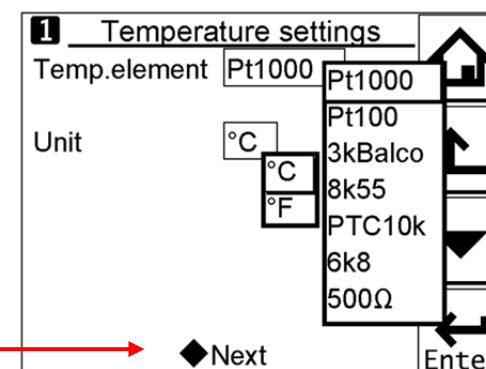
4.) In **Sensor setup**, select the appropriate **Sensor type** from the drop down menu for sensor 1, then select the diamond next to **NEXT**.



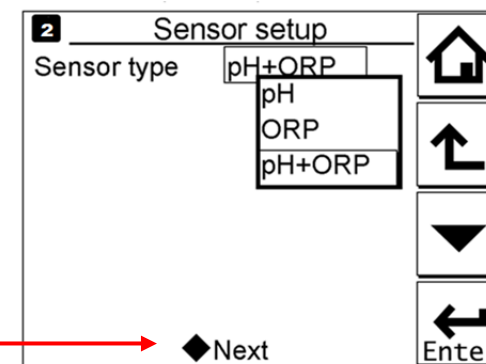
\*If you are setting up a pH instrument and you select "pH + ORP" for the sensor setup, then you will be prompted to an additional screen for **Measurement Setup**. Select the diamond next to **NEXT** once complete.



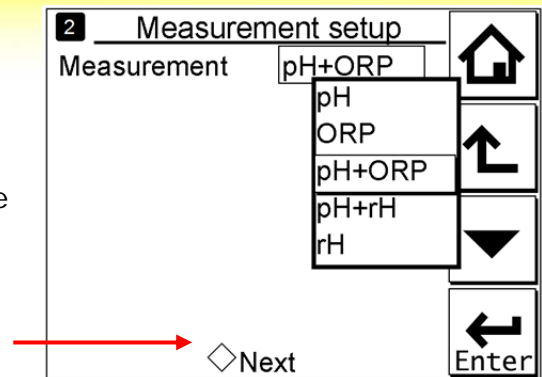
5.) In **Temperature settings**, select appropriate temperature element from the drop down menu for sensor 1, then select the diamond next to **NEXT**.



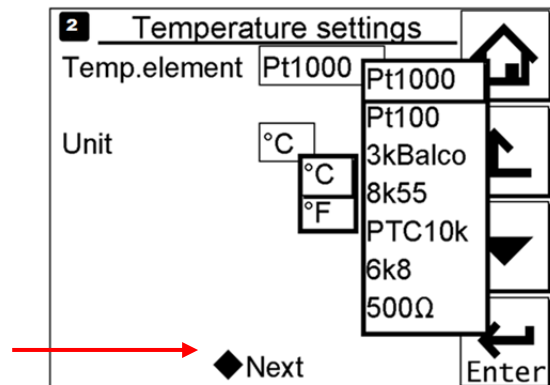
6.) In **Sensor setup**, select the appropriate sensor type from the drop down menu for sensor 2, then select the diamond next to **NEXT**.



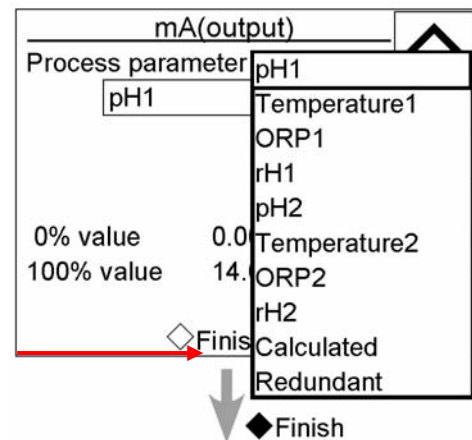
\*If you are setting up a pH instrument and you select "pH + ORP" for the sensor setup, then you will be prompted to an additional screen for **Measurement Setup**. Select the diamond next to **NEXT** once complete.



7.) In **Temperature settings**, select appropriate temperature element from the drop down menu for sensor 2, then select the diamond next to **NEXT**.

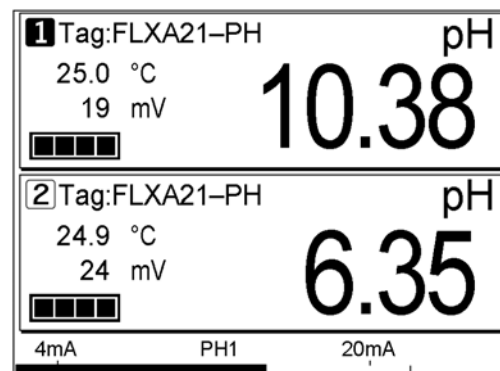


8.) In **mA(output)**, select **Calculated** for the desired process parameter for the 4-20 mA signal, and set the 0% (4mA) and 100% (20mA) values. Once complete select the diamond next to **Finish**.



9.) The instrument will then bring you to the **Home** display.

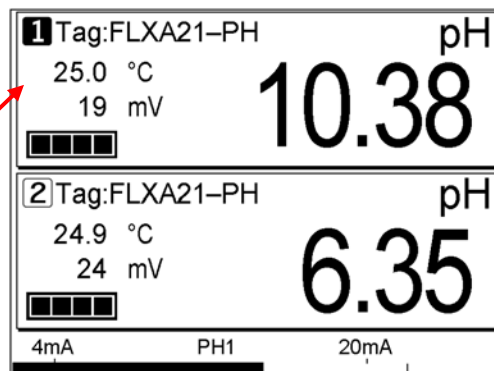
The instrument is Defaulted for Differential as the calculated data. To change to something else go to the commissioning screen and skip to step 18 otherwise skip to step 20.



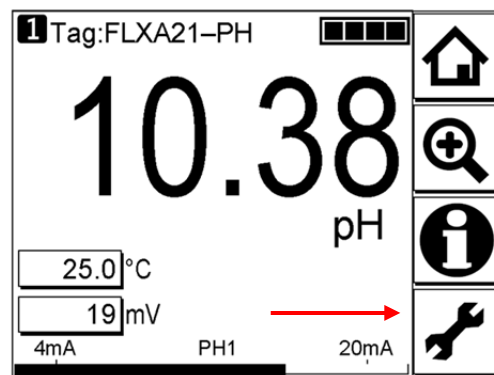
**After Installation**

If your instrument only has 1 sensor input module please refer to *TechNote TNA1201* for installing a second sensor module; if your instrument already has 2 sensor input modules please proceed with Step 10.

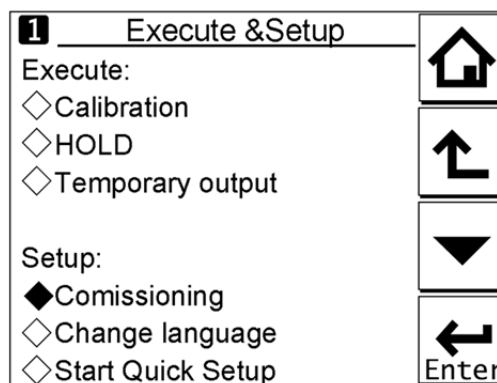
10.) Select sensor Input 1 (top section) information to go to Sensor 1 Main display.



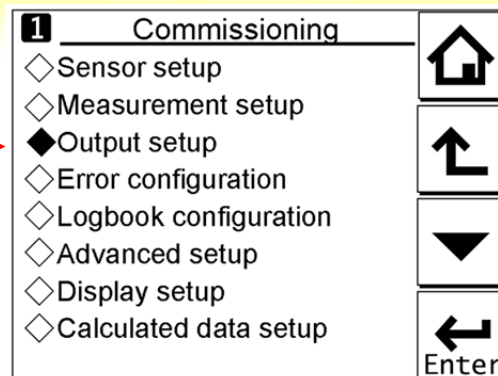
11.) Select Execute & setup, **Wrench** icon.



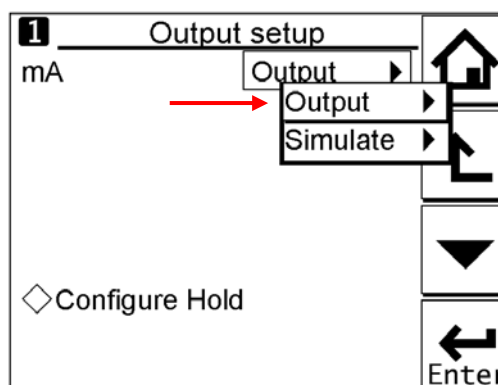
12.) Select the diamond next to **Commissioning**.



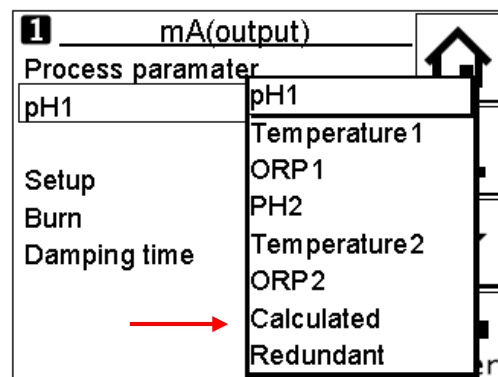
13.) Select the diamond next to **Output setup**.



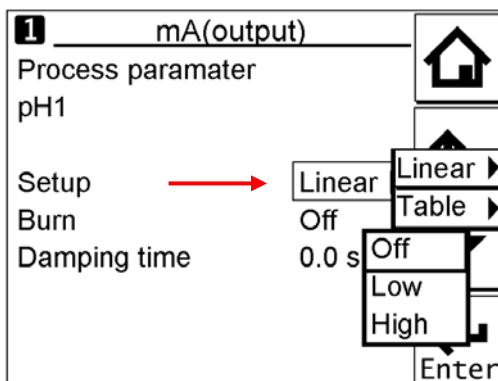
14.) Select **Output** form the drop down menu.




15.) Select **Calculated** from the drop down menu.

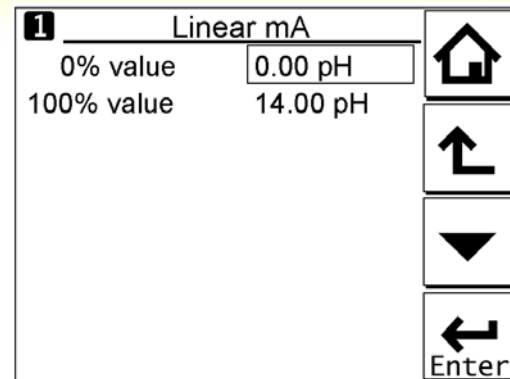


16.) Select desired Setup, Linear or Table. Most common is **Linear**.

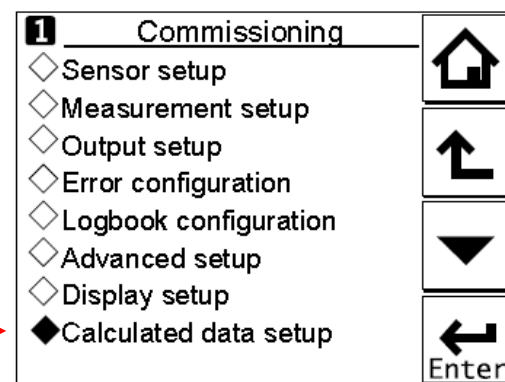


17.) Set the **0%** and the **100%** values.

Select the **return key**, , to return to the Commissioning screen.

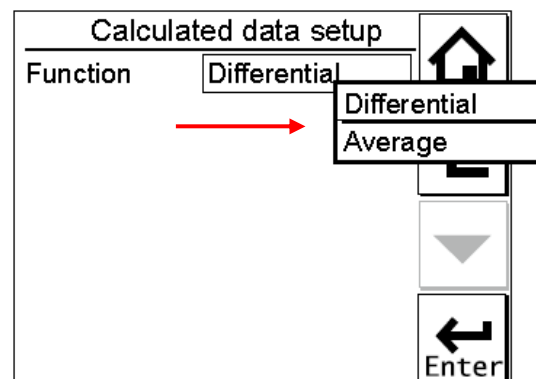


18.) Select the diamond next to **Calculated data setup**.

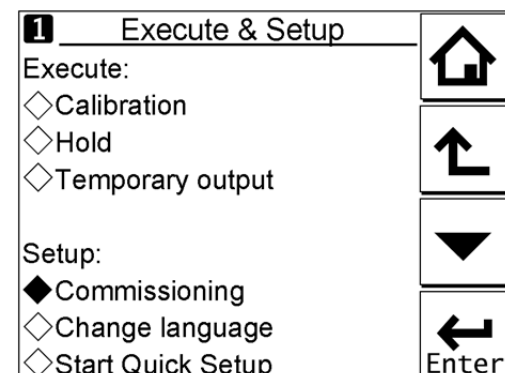


19.) The instrument is defaulted for Differential, select the desired calculated measurement type from the drop down menu. Now you need to set up the dual

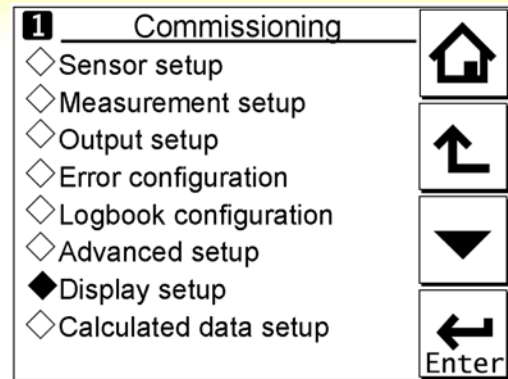
display, select the **Return key**, , to return to the commissioning screen.



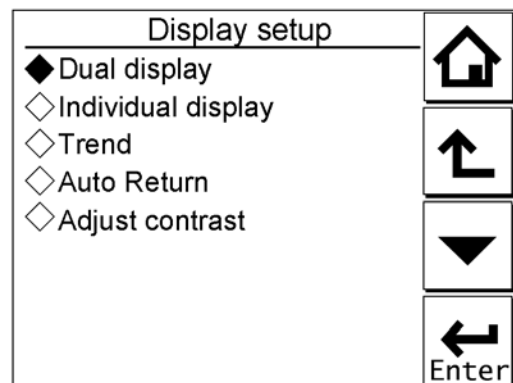
20.) Select the diamond next to **Commissioning**.




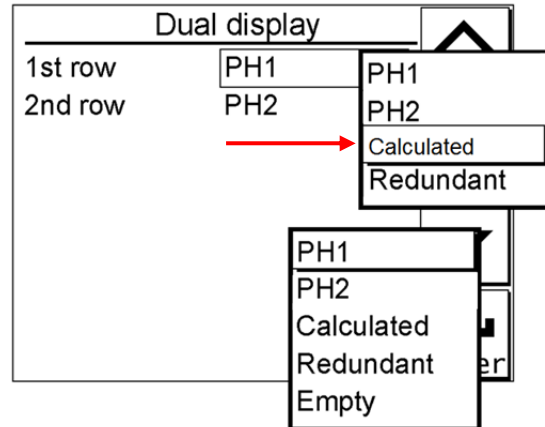
21.) Select the diamond next to **Display Setup**.



22.) Select the diamond next to **Dual display**.

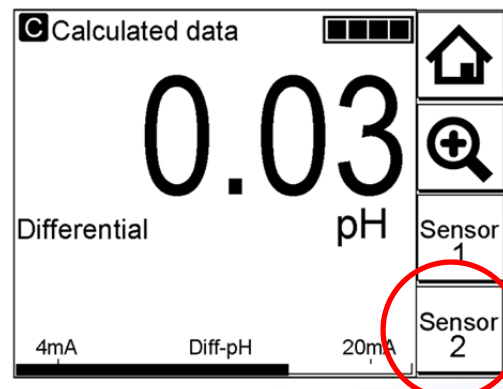


23.) Set the 1<sup>st</sup> row to **Calculated** and set the 2<sup>nd</sup> row to **desired parameter**, from the drop down menus. Select the **House icon**,  to return to the Home Display.

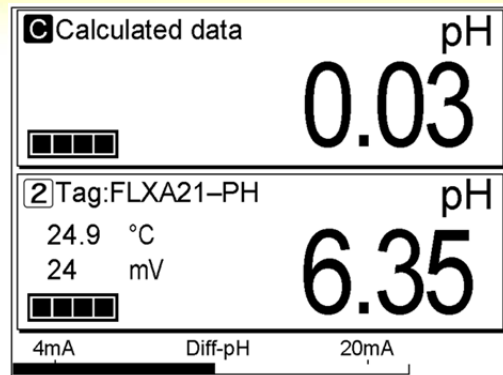


The screen to the right will appear. There are two different ways to view the Home display. This will be what most people will like the analyzer set to. In this viewing screen it allows you to see the current measurement at the same time to see if any faults are present on sensor 2. If a Failure was present the Warn/Fail

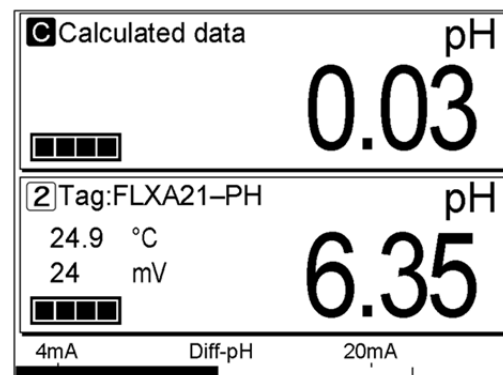
icon,  would flash in the sensor box.



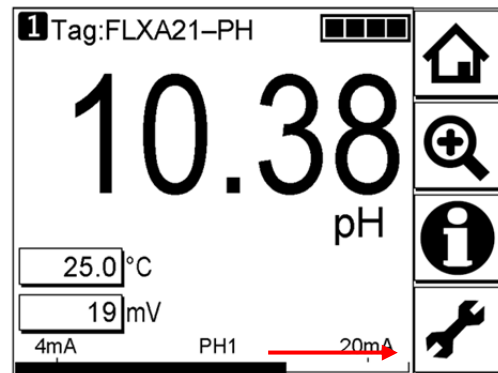
However if you select the House icon again the instrument will return to the normal view showing you the Calculated system and whatever user programed parameter was set for 2<sup>nd</sup> row in step 23. To return back to the other Home display view, select the **Calculated data** information.



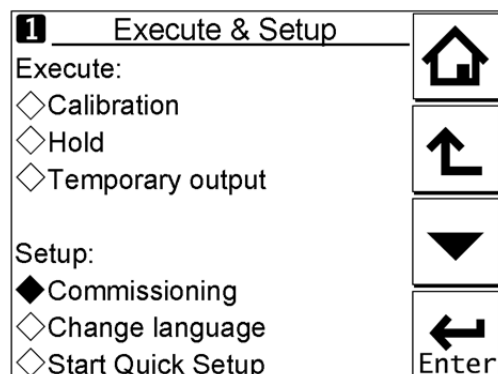
24.) It is good practice to set the Trend display to include the Calculated reading. Select the Sensor box, to view the Sensors Main display.



25.) Select Execute & setup, **Wrench** icon.







26.) Select the diamond next to **Commissioning**.









27.) Select the diamond next to **Display Setup**.


<b>1</b> Commissioning		
<input type="checkbox"/>	Sensor setup	
<input type="checkbox"/>	Measurement setup	
<input type="checkbox"/>	Output setup	
<input type="checkbox"/>	Error configuration	
<input type="checkbox"/>	Logbook configuration	
<input type="checkbox"/>	Advanced setup	
<input checked="" type="checkbox"/>	Display setup	
<input type="checkbox"/>	Calculated data setup	

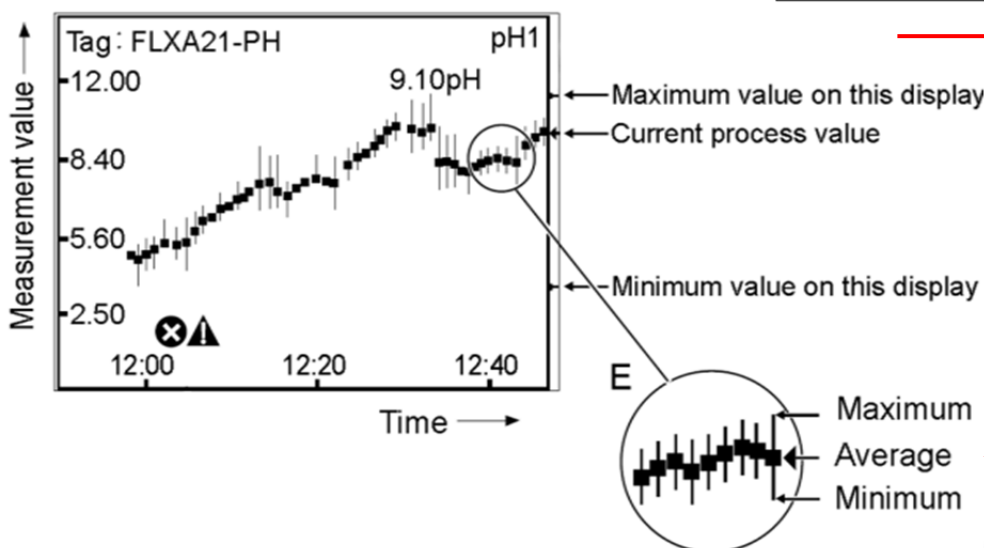
28.) Select the diamond next to **Trend**.

Display setup		
<input type="checkbox"/>	Dual display	
<input type="checkbox"/>	Individual display	
<input checked="" type="checkbox"/>	Trend	
<input type="checkbox"/>	Auto Return	
<input type="checkbox"/>	Adjust contrast	

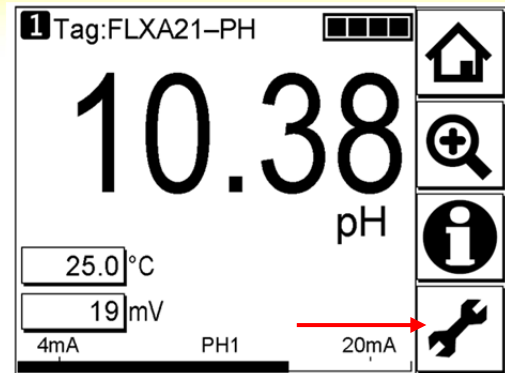
29.) Set one of the lines to show you **Calculated** value on the Trend graph. Select

the **Return key**,  to return to the sensor inputs **Main Display**.

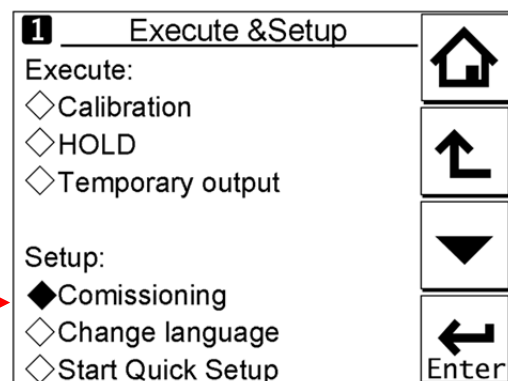
Trend		
Trend Graph Screen:		
1st Trend	pH1	pH1
2nd Trend	Temperature1	Temperature1
3rd Trend	Empty	ORP1
<input type="checkbox"/>	X-axis: Timing	Concentration1
<input type="checkbox"/>	Y-axis: Limits	pH2
		Temperature2
		ORP2
		Concentration2
		Calculated
		Redundant
		Empty



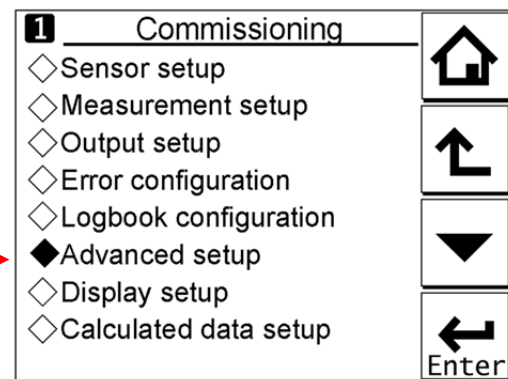
30.) The last thing that has to be done is when using HART communication you have to set the SV, TV and FV level parameter values. From the Sensor 1 Main Display select Execute & setup, **Wrench** icon.



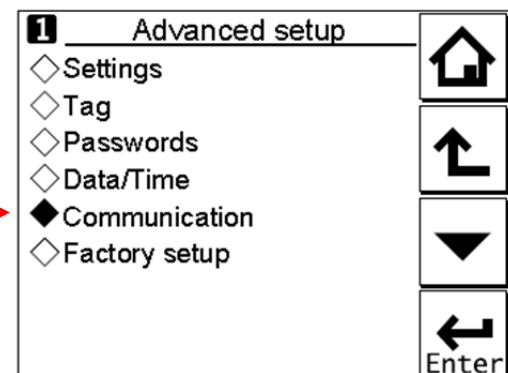
31.) Select the diamond next to **Commissioning**.



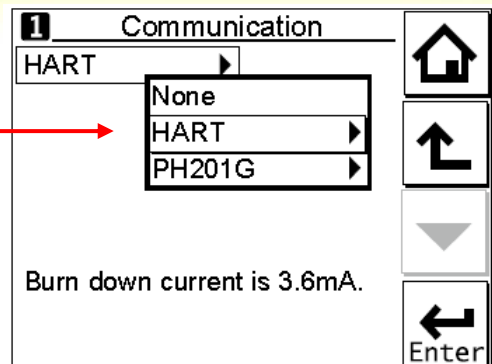
32.) Select the diamond next to **Advanced Setup**.



33.) Select the diamond next to **Communication**.



34.) Select **HART** from the drop down menu.



35.) Set the SV, TV and FV to the desired parameters. PV will automatically be set up for Calculated. Once complete you can select the House Icon to return to the desired Home or Main display.

