

FLXA2- SC Calculated System Set-up


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

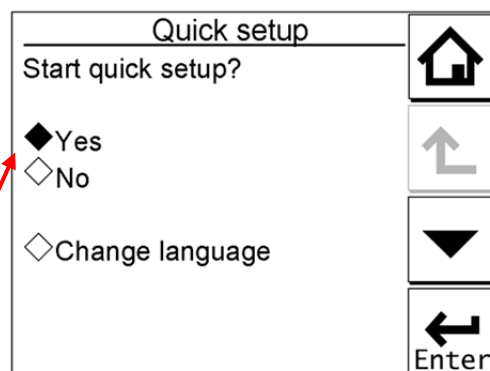
Initial Set-Up

To program a new FLXA21 with 2 SC sensors at initial setup for a calculated output, follow steps 1-11. 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 12.

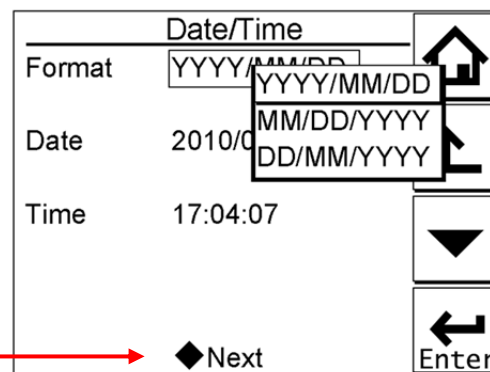
1.) After the transmitter is wired and powered on, during start up the display will show the FLEXA logo.



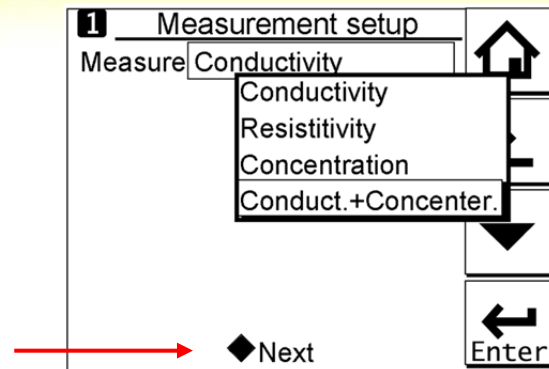
2.) The **Quick setup** screen will appear. Using either the the  scroll key and **Enter** key; or by clicking directly on the diamond next to **YES**, select it.



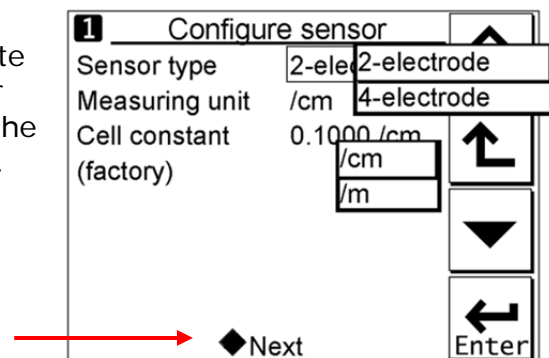
3.) Set the **Date/Time**, then select the diamond next to **NEXT**.



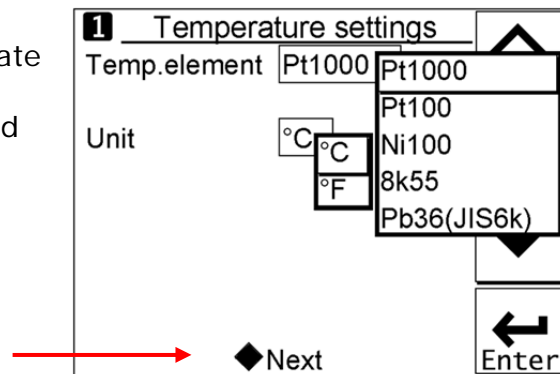
- 4.) In **Measurement setup**, select the appropriate **Measurement** from the drop down menu for sensor 1, then select the diamond next to **NEXT**.



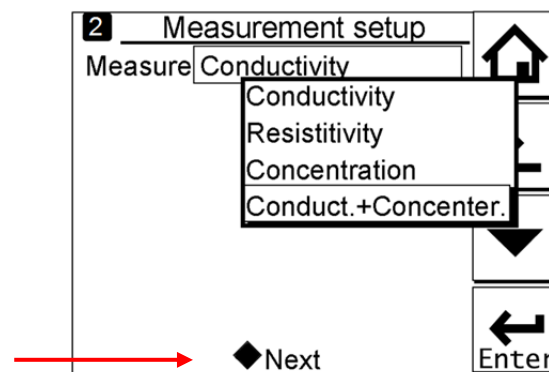
- 5.) In **Configure sensor**, select the appropriate **Sensor type** from the drop down menu for sensor 1, then adjust the cell constant for the probe being used to its actual cell constant. Once finished select the diamond next to **NEXT**.



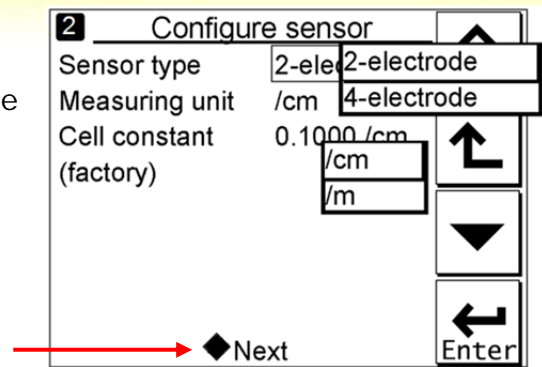
- 6.) In **Temperature settings**, select appropriate temperature element from the drop down menu for sensor 1, then select the diamond next to **NEXT**.



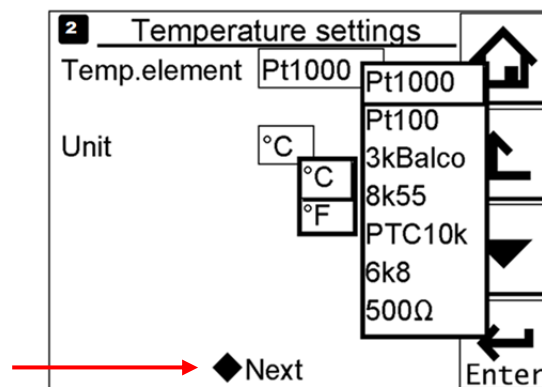
- 7.) In **Measurement setup**, select the appropriate **Measurement** from the drop down menu for sensor 2, then select the diamond next to **NEXT**.



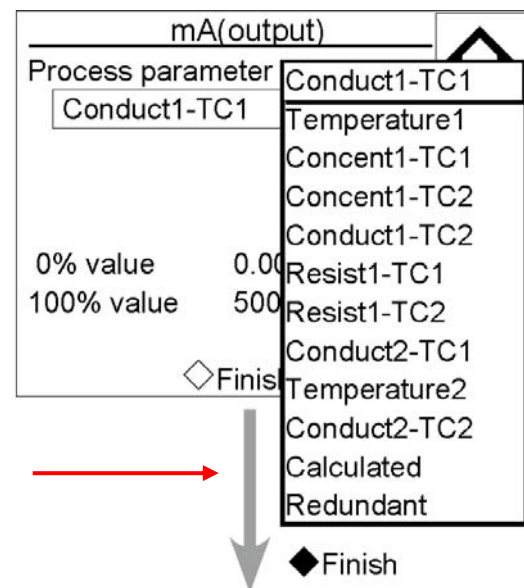
8.) In **Configure sensor**, select the appropriate **Sensor type** from the drop down menu for sensor 2, then adjust the cell constant for the probe being used to its actual cell constant. Once finished select the diamond next to **NEXT**.



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

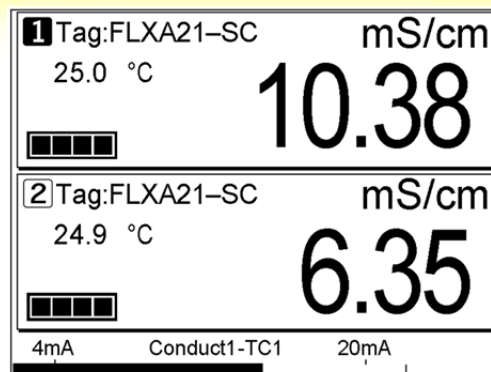


10.) In **mA(output)**, select **Calculated** for the desired process parameter for the 4-20 mA signal, and set the 0% (4mA) and 100% (20mA) values. Once complete select the diamond next to **Finish**.



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

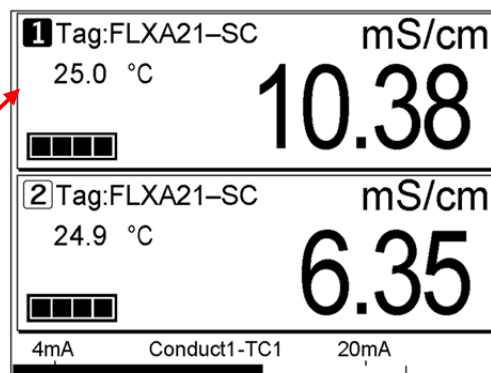
The instrument is Defaulted for Differential as the calculated data. To change to something else go to the commissioning screen and skip to step 20 otherwise skip to step 22.



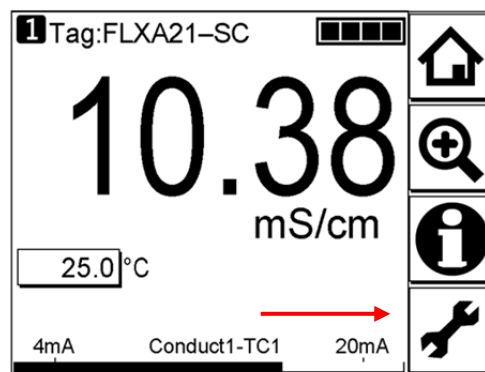
After Installation

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 12.

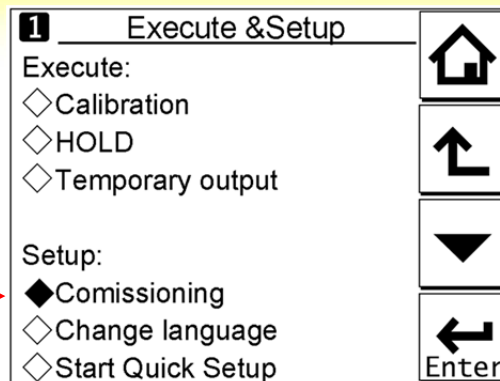
12.) Select sensor Input 1 (top section) information to go to Sensor 1 Main display.



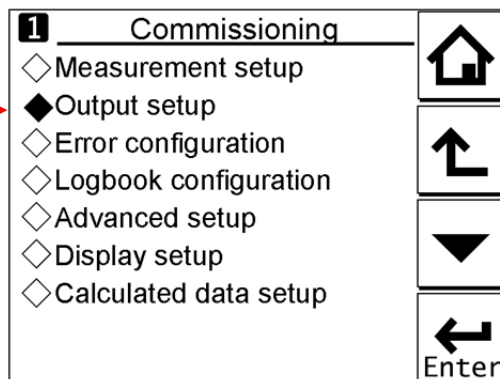
13.) Select Execute & setup, **Wrench** icon.



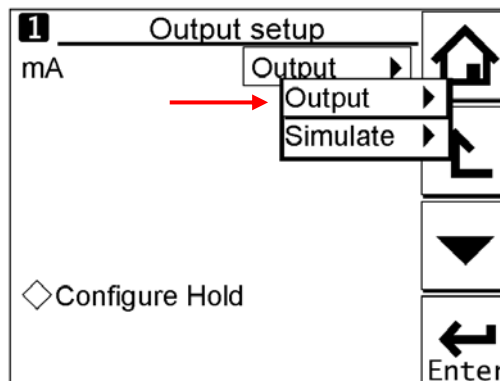
14.) Select the diamond next to **Commissioning**.



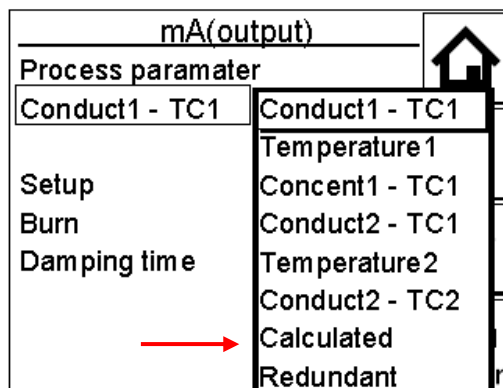
15.) Select the diamond next to **Output setup**.



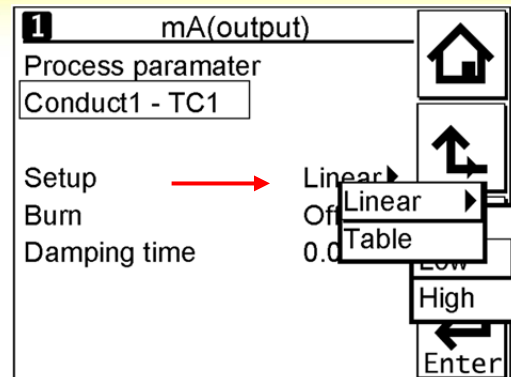
16.) Select **Output** from the drop down menu.




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

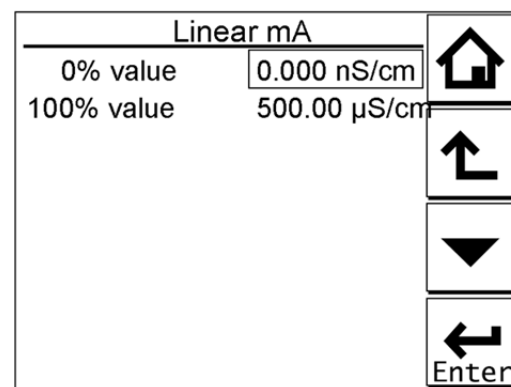


- 18.) Select desired Setup, Linear or Table.
Most common is **Linear**.

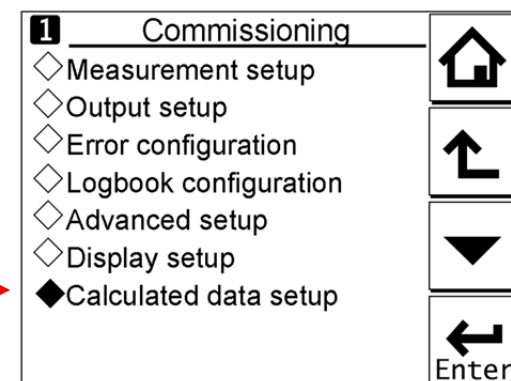


- 19.) Set the **0%** and the **100%** values.

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

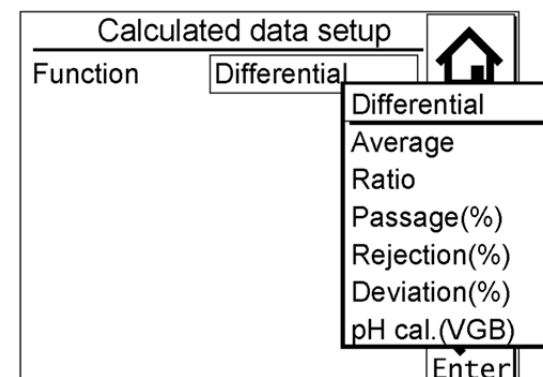


- 20.) Select the diamond next to **Calculated data setup**.

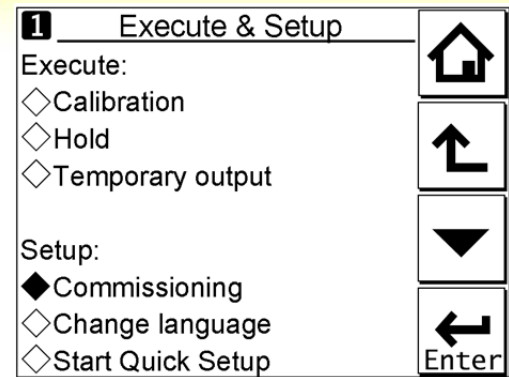


- 21.) The instrument is defaulted for Differential, select the desired calculated measurement from the drop down menu. Now you need to set up the dual display,

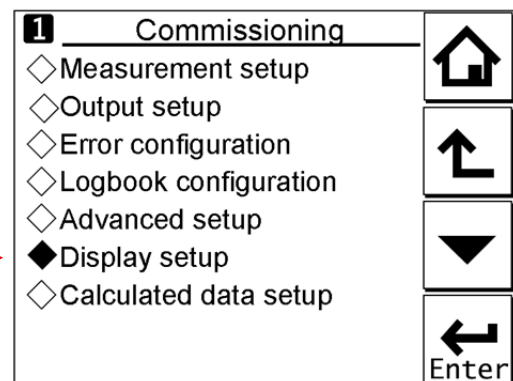
Select the **Return key**, , to return to the commissioning screen.



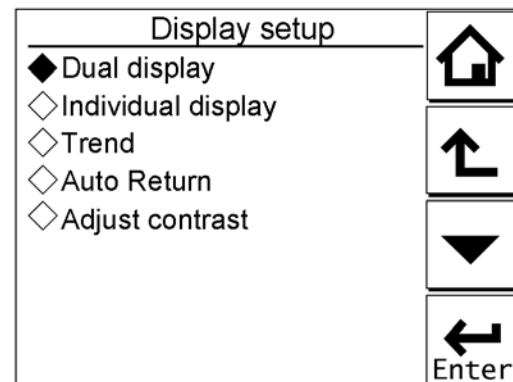
22.) Select the diamond next to **Commissioning**.




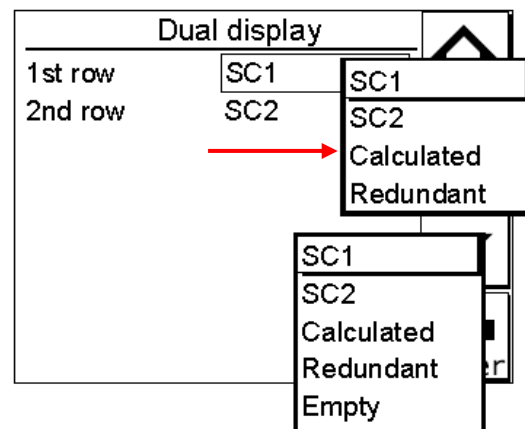
23.) Select the diamond next to **Display Setup**.



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



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



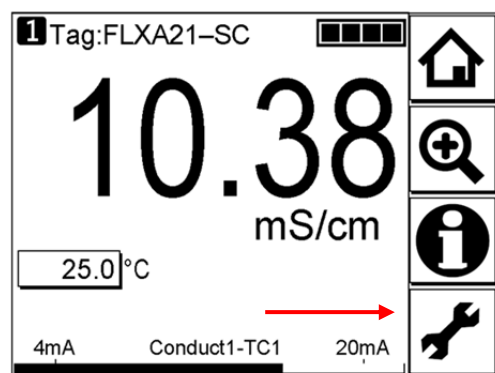
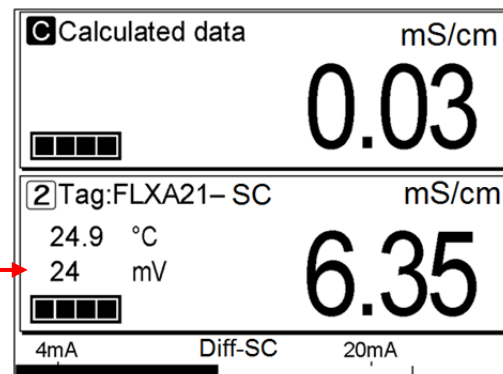
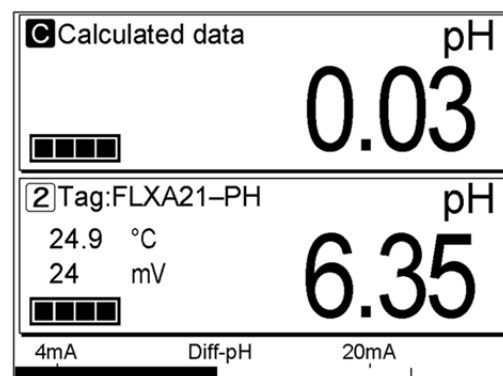
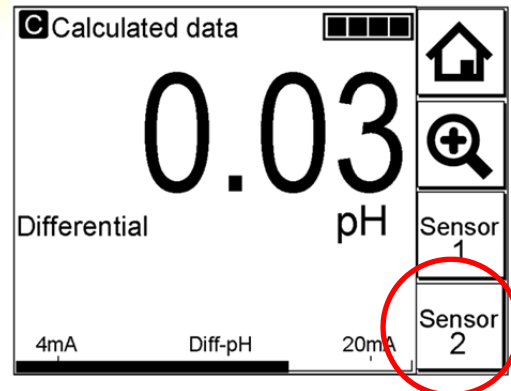
The screen to the right will appear. There are two different ways to view the Home display. This will be what most people will like the analyzer set to. In this viewing screen it allows you to see the current measurement at the same time to see if any faults are present on sensor 2. If a Failure was 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 programmed parameter was set for 2nd row in step 25. To return back to the other Home display view, select the **Calculated data** information.

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





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







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

1 Execute & Setup		
Execute:		
<input type="checkbox"/> Calibration		
<input type="checkbox"/> Hold		
<input type="checkbox"/> Temporary output		
Setup:		
<input checked="" type="checkbox"/> Commissioning		
<input type="checkbox"/> Change language		
<input type="checkbox"/> Start Quick Setup		
		Enter

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


1 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		
		Enter

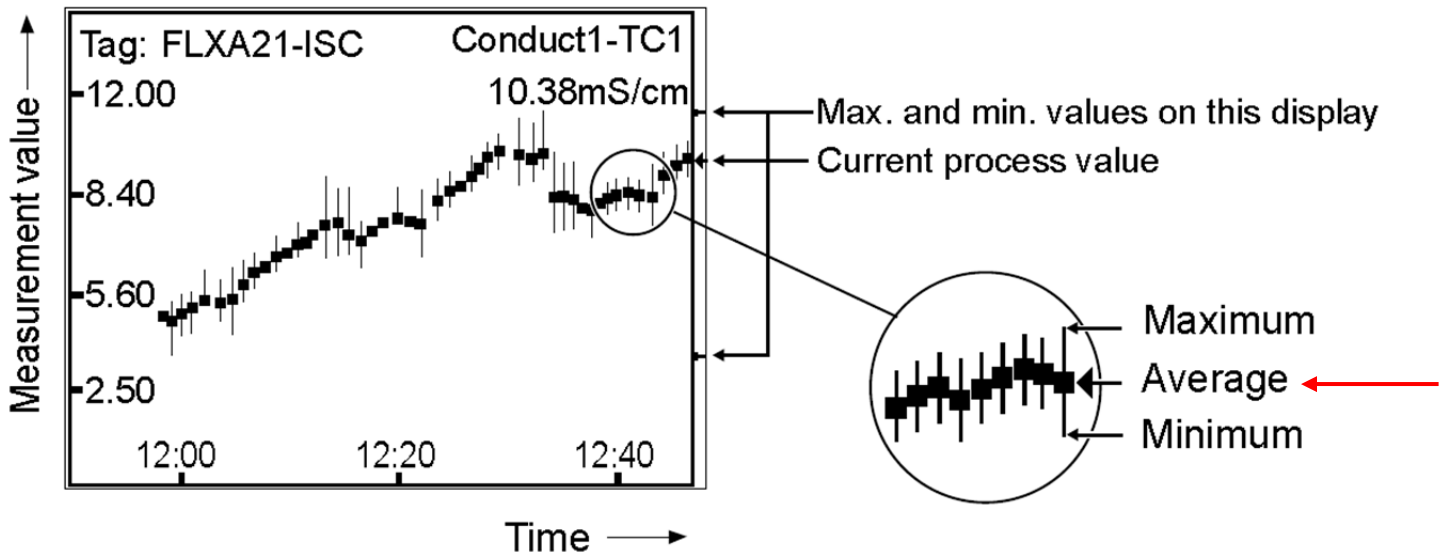
30.) Select the diamond next to **Trend**.

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		
		
		Enter

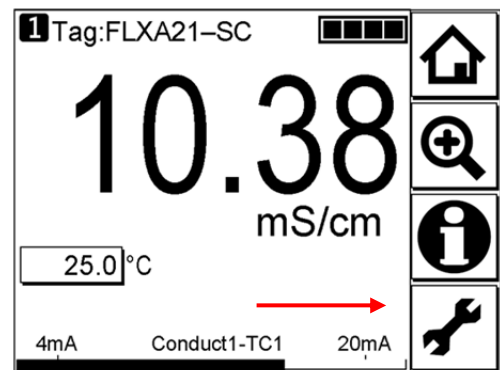
31.) Set one of the lines to show you **Calculated** value on the Trend graph.

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

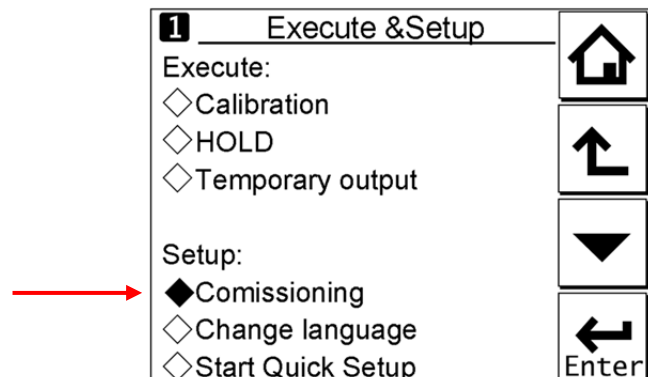
Trend											
Trend Graph Screen:											
1st Trend	Conduct1-TC1	<table border="1"> <tr><td>Conduct1-TC1</td></tr> <tr><td>Temperature1</td></tr> <tr><td>Concent1-TC1</td></tr> <tr><td>Conduct2-TC1</td></tr> <tr><td>Temperature2</td></tr> <tr><td>Conduct2-TC2</td></tr> <tr><td>Calculated</td></tr> <tr><td>Redundant</td></tr> <tr><td>Empty</td></tr> </table>	Conduct1-TC1	Temperature1	Concent1-TC1	Conduct2-TC1	Temperature2	Conduct2-TC2	Calculated	Redundant	Empty
Conduct1-TC1											
Temperature1											
Concent1-TC1											
Conduct2-TC1											
Temperature2											
Conduct2-TC2											
Calculated											
Redundant											
Empty											
2nd Trend	Temperatur										
3rd Trend	Empty										
<input type="checkbox"/> X-axis:	Timing										
<input type="checkbox"/> Y-axis:	Limits										



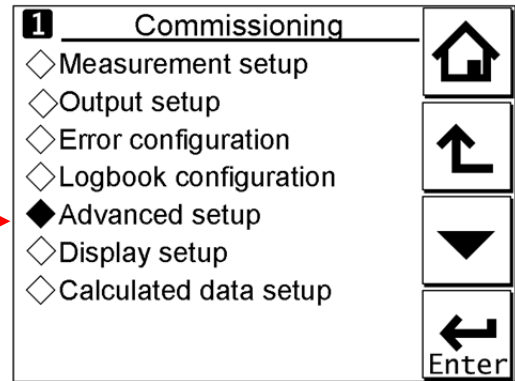
32.) The last thing that has to be done is when using HART communication you have to set the SV, TV and FV level parameter values. From the Sensor 1 Main Display select Execute & setup, **Wrench** icon.



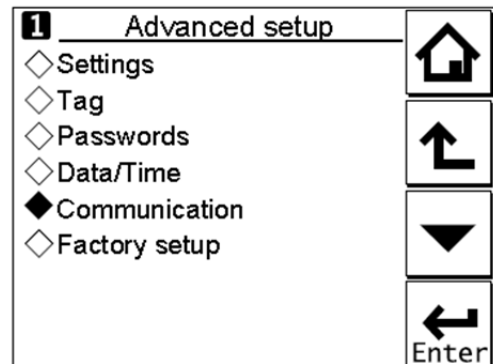
33.) Select the diamond next to **Commissioning**.



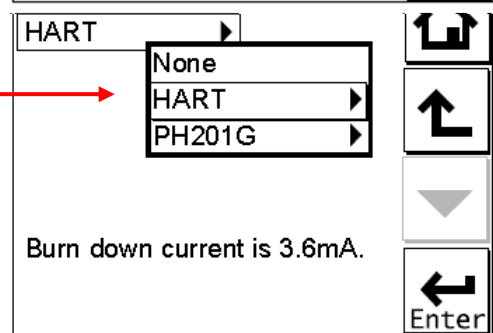
34.) Select the diamond next to **Advanced Setup**.





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



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



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

HART setup													
Network address	<input type="text" value="0"/>												
PV	Conduct1-TC1	<table border="1"> <tr><td>Conduct1-TC1</td></tr> <tr><td>Temperature1</td></tr> <tr><td>Concent1-TC1</td></tr> <tr><td>USP margin1</td></tr> <tr><td>Conduct2-TC1</td></tr> <tr><td>Temperature2</td></tr> <tr><td>Concent2-TC2</td></tr> <tr><td>USP margin2</td></tr> <tr><td>Calculated</td></tr> <tr><td>Redundant</td></tr> <tr><td>Empty</td></tr> </table>	Conduct1-TC1	Temperature1	Concent1-TC1	USP margin1	Conduct2-TC1	Temperature2	Concent2-TC2	USP margin2	Calculated	Redundant	Empty
Conduct1-TC1													
Temperature1													
Concent1-TC1													
USP margin1													
Conduct2-TC1													
Temperature2													
Concent2-TC2													
USP margin2													
Calculated													
Redundant													
Empty													
SV	Temperature1												
TV	Conduct2-TC1												
FV	Temperature2												
PV = mA output													