How to Use SingleSense® Sensors with M300

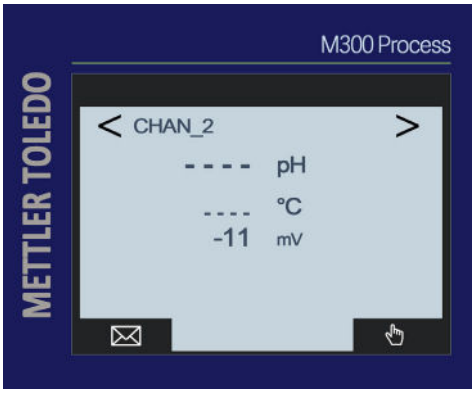
1. Sensor Connection

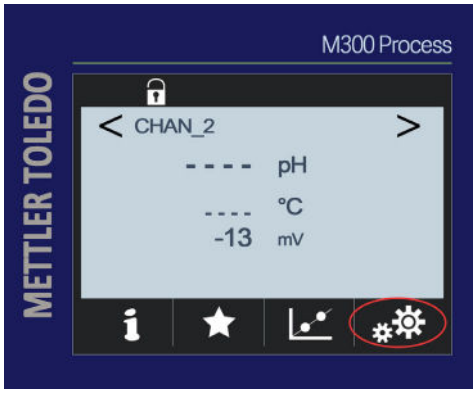
1. Connect the VP8 end of the sensor to the VP8 connector of the transmitter.
2. Once an established connection has been confirmed, check the M300 Home screen for an input mV signal and a pH value.

2. Channel Setup

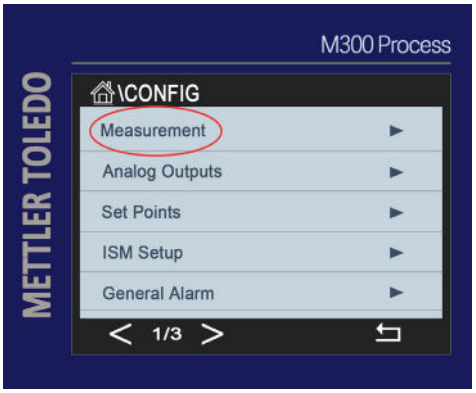
At least one channel of the transmitter must be configured as a pH channel. That means it will need to accept a mV signal and output a pH value. If a channel is already configured as a pH channel, then skip this section and move to the next (3.3). To perform a channel setup in the M300:

1. Touch the screen and select the **Settings** icon.





2. Select **Measurement**.



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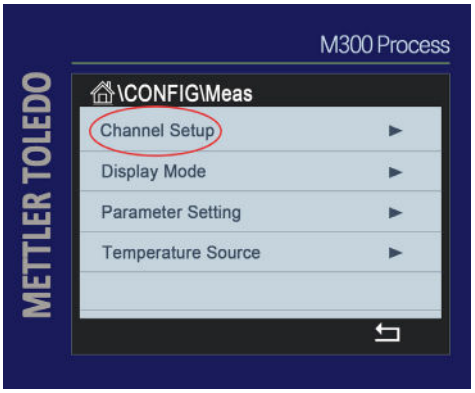
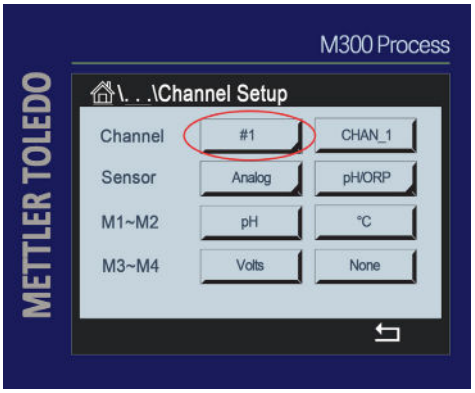
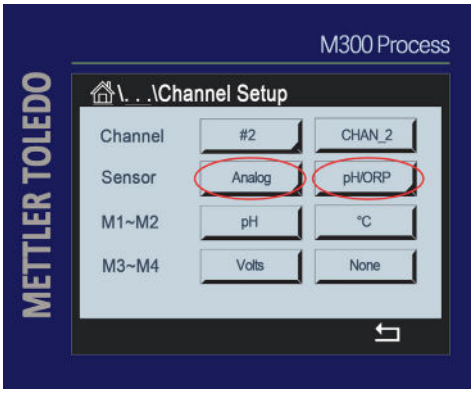
3. Select **Channel Setup**.



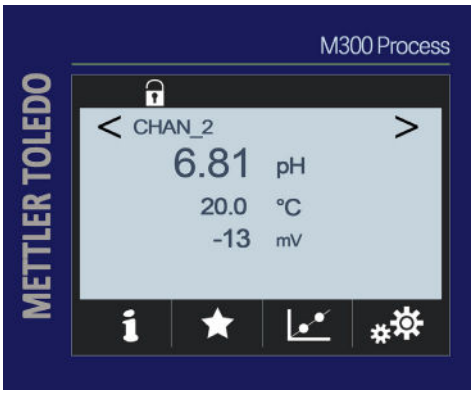
4. Select the channel for the setup by selecting **#1** for Channel 1 and/or button **#2** for Channel 2 depending on the channel that you installed the sensor in.



5. Select sensor type **Analog** and choose **pH/ORP**.

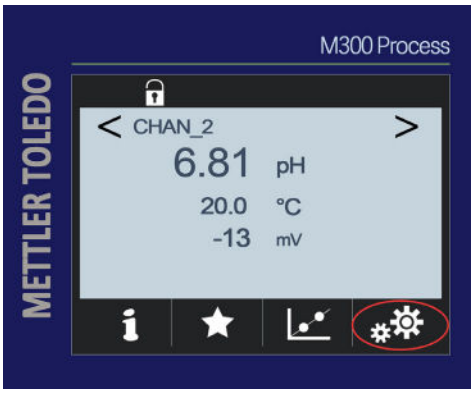


6. Press **Home** and ensure the display screen is showing a successful pH parameter display.

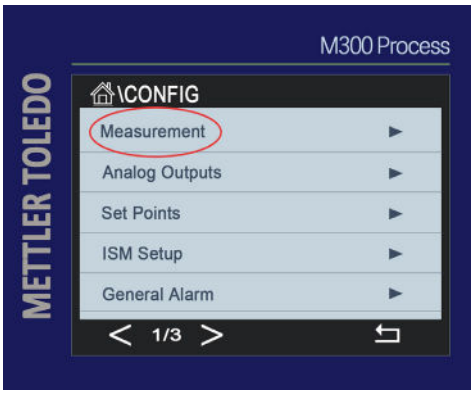


3. pH Settings

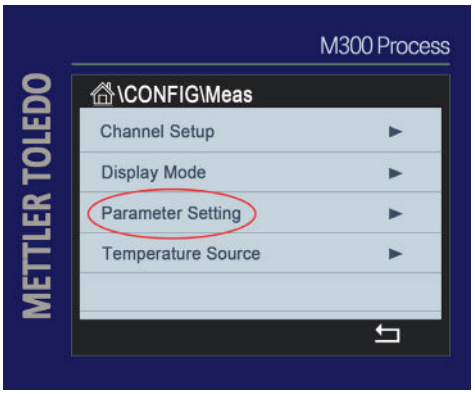
1. Select the **Settings** icon.



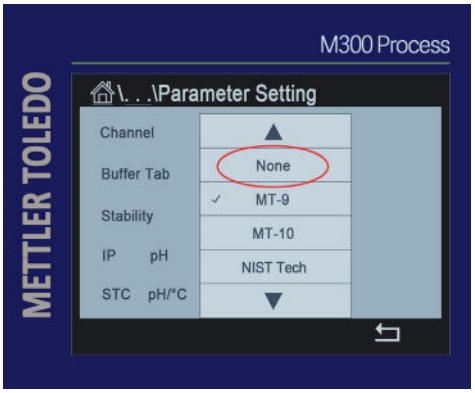
2. Select **Measurement**.

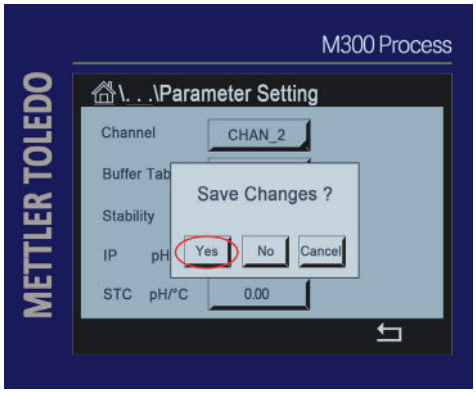


3. Select **Parameter Setting**.



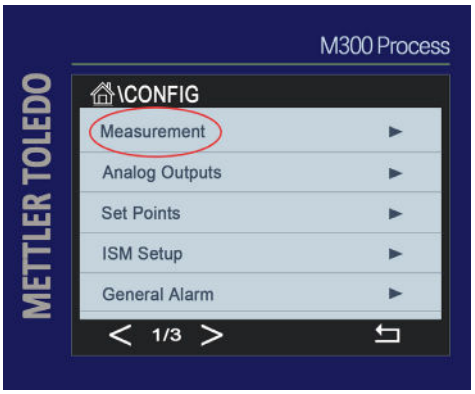
4. The **Stability** tab should be set on the desired value (preferably Medium).
5. Select **Buffer Tab** and select **None** as the other settings are for automatic buffer recognition. Press **Yes** to save changes.



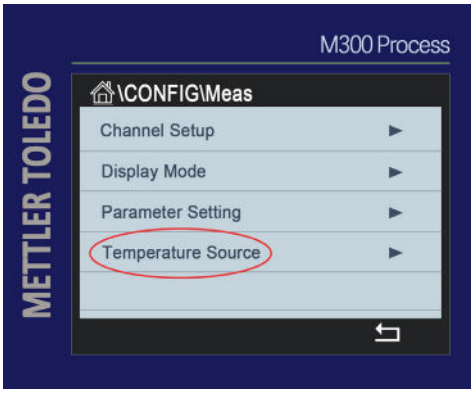


4. Temperature Source

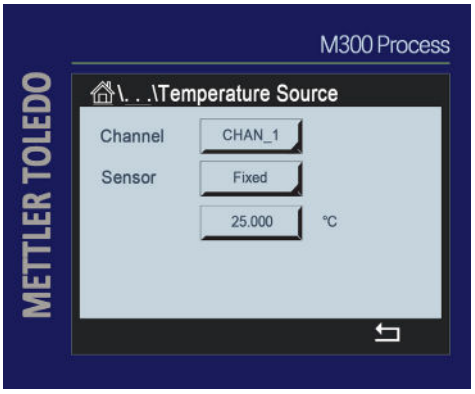
1. Select **Measurement**.



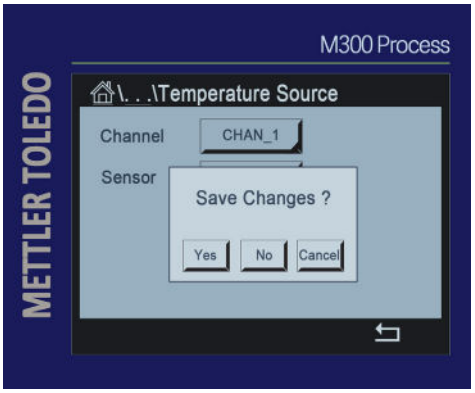
2. Select **Temperature Source**.



3. Set Sensor to **Fixed** and temperature to 25.000 degrees C.



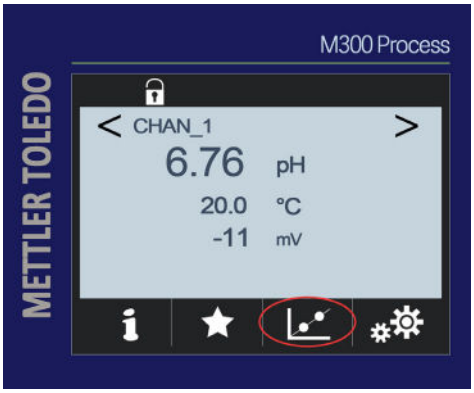
4. Press **Yes** to save changes and return to Home page.



5. 1-Point Calibration

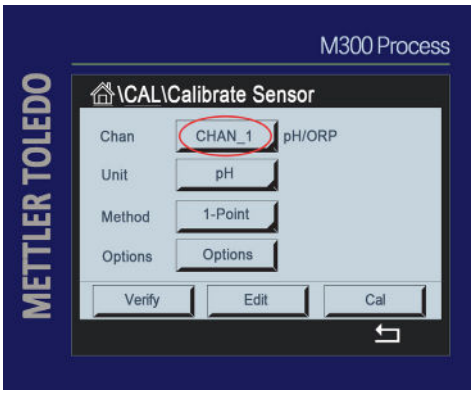
In this section, steps 1 through 8 do not require the sensor to be thermally equilibrated with the process. The temperature and slope values can be at the assumed digits. The temperature has already been set at fixed 25°C in the last section step 3, and the slope will be input from the value printed on sensor tag label as you will see in step 8 of this section. However, the sensor will need to be thermally equilibrated with the process before executing steps 9 through 13.

1. Select the **Graph Icon** on the Home screen.

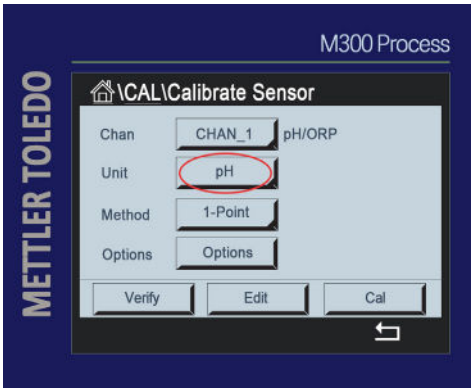


2. Select **Calibrate Sensor**.

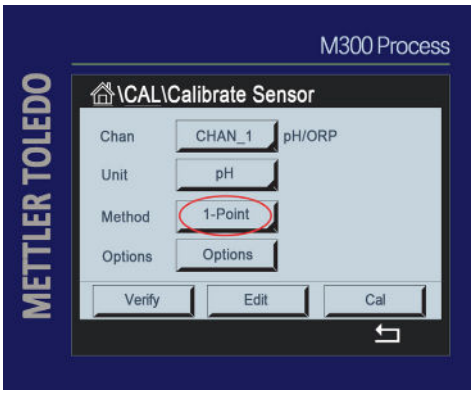
3. Select the correct **Channel** that the sensor is installed.



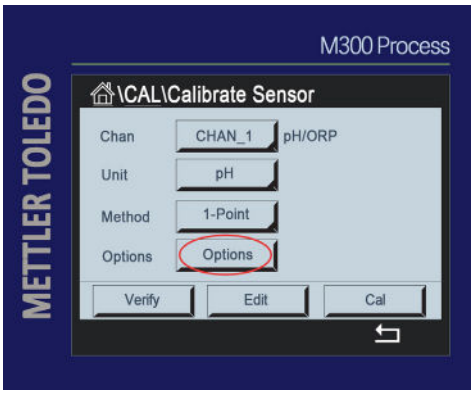
4. Make sure the **Unit** is **pH**.

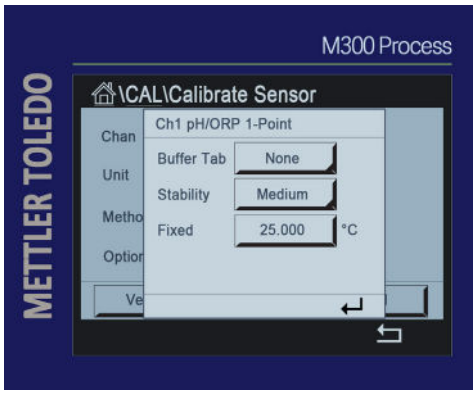


5. Select the **1-Point** Calibration Method.

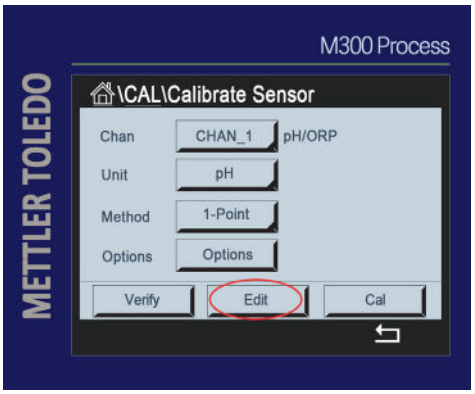


6. Select **Options** and verify that the pH settings are configured as in Sections III and IV. If they are not, go back to these sections and follow their instructions. As mentioned in Sections III and IV, it is crucial for the **Buffer Tab** to be **None** and the temperature reading to be **Fixed** at your process temperature value.

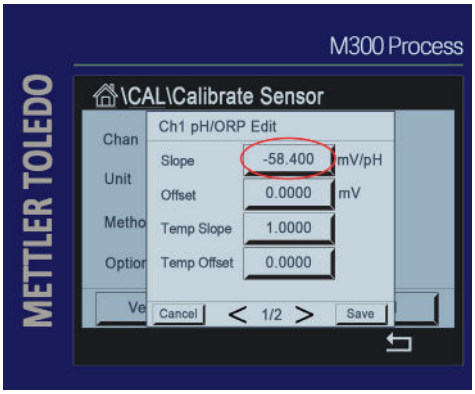


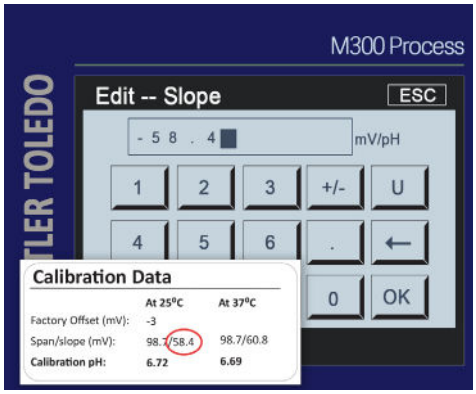


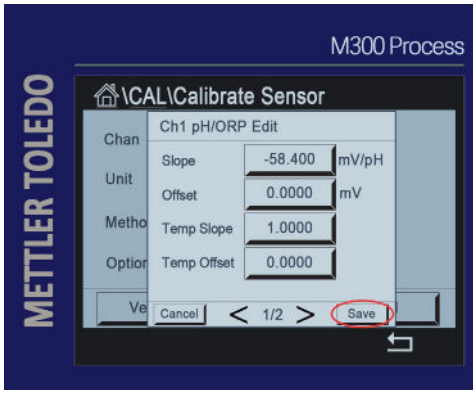
7. Select **Edit**.



8. Select the **Slope** tab. Within the Slope pop-up window, add the slope value using the (-) sign. You can find the slope value on the the sensor Calibration Data label. Finally, press the **Save** button.

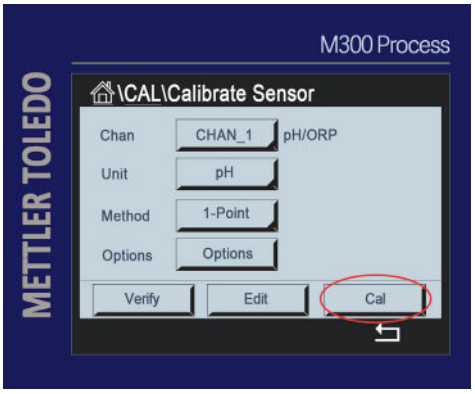




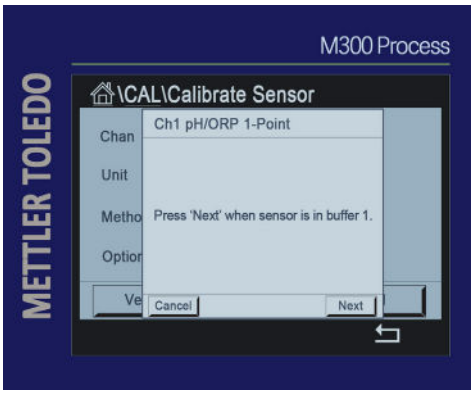


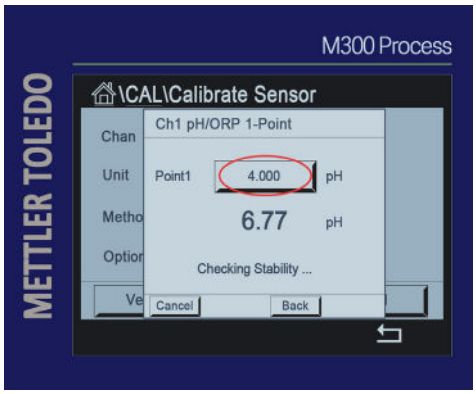
9. If the process temperature is out of 25 ± 5°C, it is recommended to go back to Section IV Temperature Source and change the temperature setting to the process temperature.

10. Select **Calibrate Sensor** and select **Cal**.

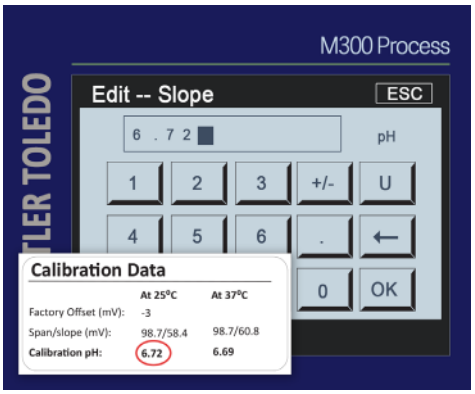


11. Select **Next** and then press **Point1** to add the 1-point pH value provided in the sensor tag label if the process temperature is within 25 ± 5°C, or refer to the table provided by Broadley-James within the sensor documentation and find the pH value for the temperature that is close to your process temperature.

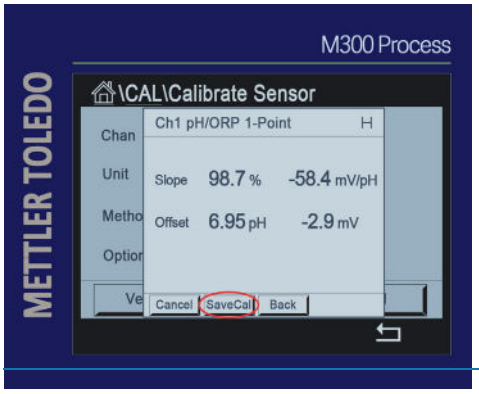


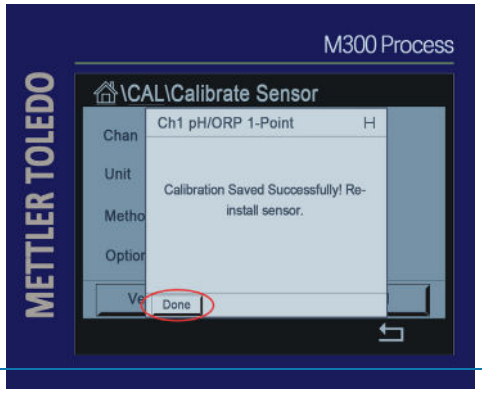


12. Add the 1-pt pH value, and wait enought time to ensure the sensor is thermally equilibrated with the process (up to one hour). Press **OK**.



13. The calibration will now be completed and the calibration values will be displayed. Select **SaveCal** to save the calibration data. A message with pop-up that calibration saved successfully. Press **Done**. Finally, go back to Home screen and make sure the pH reading is correct according to the calibration value.





14. The sensor is now ready to be used by transferring the sensor position from Calibration to Measure.

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