

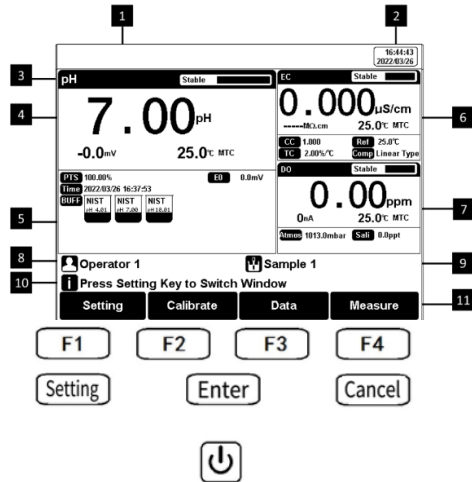
M300F Multi-parameter Analyzer Operation Quick Guide

1. Specification

Parameters:

- pH/pX Module: pH, pX, ISE
- EC Module: Conductivity, Resistivity, TDS, Salinity
- DO Module: DO, Saturation
- Temperature

2. Screen Icons



2.1. Annotation

| No. | Explanation |
|-----|---|
| 1 | Interface |
| 2 | System time |
| 3 | Measurement parameters and reading states |
| 4 | Main measurement box |
| 5 | Calibration information |
| 6 | Second measurement box |
| 7 | Third measurement box |
| 8 | User ID |
| 9 | Sample ID |
| 10 | Tips information |
| 11 | Function buttons |

2.2. Symbol

| Symbol | Explanation |
|--------|--|
| | Reading status, display the measurement status of reading, stable, locked each indicates that the processing, stable, and reading completed. |
| PTS | The percentage slope of the pH electrode calibration data |
| BUFF | The standard buffer solution for calibration |
| Time | Time to Calibrate Electrodes |

| Symbol | Explanation |
|-------------|--|
| | Standard solution for pH electrode calibration |
| ATC | Auto Temperature compensation |
| MTC | Manual temperature compensation |
| TC | Temperature coefficient |
| Ref | Reference temperature |
| Comp | Compensation mode |
| CC | Cell constant |
| Type | Calibration type |
| STD | Standard solution |
| | Standard solution for conductivity calibration |
| Time | Calibration time |
| TDSF | TDS conversion factor |
| AP | Barometric compensation |
| SALT | Auto salt compensation |
| | User ID |
| | Sample ID |
| Auto Mode | Auto standard recognition |
| Manual Mode | Input standard |

3. pH Operation Quick Guide

3.1. Preparation

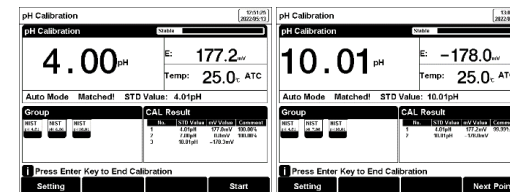
1. Install the components of the instrument and connect the pH and temperature electrode.
2. Prepare standard buffer solutions such as pH4.01, pH7.00, pH10.01 standard solutions.
3. Remove the protective cap at the lower end of the pH electrode, pull down the rubber cover at the upper end of the electrode. Expose the top hole, rinse the electrode with distilled water, and dry with filter paper.
4. Press the power key to turn on the instrument.

3.2. Calibration

1. Setting.
 - 1) Set the parameters (e.g.pH).
 - 2) Select NIST standard solution group, and check pH 4.01, pH 7.00 and pH 10.01 three standard solutions.
 - 3) Set the Auto Mode recognition.

2. Press the F2"Calibrate"->pH Calibration".
3. Put the cleaned electrode into pH 4.01 standard solution.
4. Wait for the instrument to display "Auto Mode Matched", or the instrument reading is stable, press the F4 "Start".
5. If only 1-point calibration is required, after 1-point calibration is completed, press the "Enter" key to complete the calibration.
6. If multi-point calibration is required, please replace the pH7.01 and pH10.01 standard buffer solutions. After cleaning the electrode, put the electrode into the standard solution. After the instrument recognizes it successfully, the instrument reads stably, press the F4"Next Point" to complete the calibration.
7. After completing the calibration, press the "Enter" key to complete the calibration, save the calibration results and end the calibration, directly enter the start interface. If the checked standard solution group is 5,

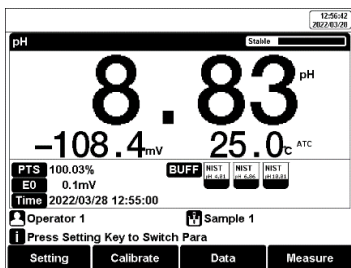
automatically end the calibration after five points of calibration.



3.3. Measurement

1. Setting.
 - 1) Set the parameters (e.g.pH).
 - 2) Set the reading mode (e.g., continuous reading, auto-reading, or timed format).
2. Put the electrode into test solution under test.
3. In the idle status, press F4 "Measure" to enter into measurement status.
4. When the reading is stable, press "Enter" to read the results.
5. Press the "Save" to save the measurement results.
6. Press the "Output" to print the measurement result when connect to the printer.

7. During measurement, stored pH electrode in distilled or deionized water.
8. After measurement, rinse the pH electrode with deionized water thoroughly.



4. pX Operation Quick Guide

4.1. Preparation

1. Install the components of the instrument and connect the ISE and temperature electrode.
2. Prepare standard solutions.
3. Rinse the electrode with distilled water, and dry with filter paper.
4. Press the power key to turn on the instrument and the stir.

4.2. Calibration

1. Setting.
 - 1) Set the parameters (e.g., pX).

- 2) Set the ion mode (e.g.F-).
 - 3) Set the concentration unit (e.g. ppm).
2. Add an appropriate amount of standard solution (usually 100 ml) to the beaker, then add ionic strength and tonicity modifiers solution. Adjust the stirring speed of the solution for measurement.
 3. Press the F2 "Calibrate"- "pX Calibration".
 4. Put the cleaned electrode into standard solution.
 5. Press the F2 "STD value" to input the standard value of the standard solution.
 6. Wait for the reading is stable, press the F4 "Start".
 7. If only 1-point calibration is required, after 1-point calibration is completed, press the "Enter" key to complete the calibration.
 8. If choosing multi-points calibration (up to 5), press "Next Point" to repeat the operation step 3 to step 6.
 9. If the checked standard solution group is 5, automatically end the

calibration after five points of calibration.

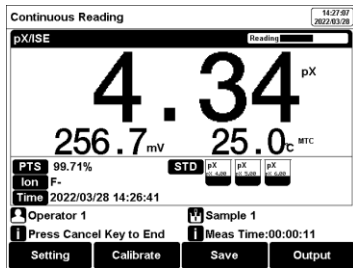


4.3. Measurement

1. Setting.
 - 1) Set the parameters (e.g., pX).
 - 2) Set the ion mode (e.g.F-).
 - 3) Set the reading mode (e.g., continuous reading, auto-reading, or timed format).
 - 4) Set the concentration unit (e.g. ppm).
2. Add an appropriate amount of standard solution (usually 100 ml) to the beaker, then add ionic strength and tonicity modifiers solution. Adjust the stirring speed of the solution for measurement.

3. In the idle status, press F4 "Measure" to enter into measurement status.
4. When the reading is stable, read the results.
5. Press the "Save" to save the measurement results.
6. Press the "Output" to print the measurement result when connect to the printer.
7. During measurement, stored ISE electrode in distilled or deionized water.
8. After measurement, rinse the ISE electrode with deionized water thoroughly.

Note: For accurate measurement, please calibrate and measure at the same temperature.



5. Conductivity Operation Quick

Guide

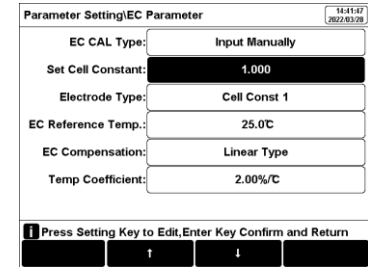
5.1. Preparation

1. Connect the EC electrode (e.g. k=1, ATC) to the meter.
2. Take off the electrode protection cap.
3. Rinse the conductivity electrode with DI water, dry out.
4. Switch on the meter.

5.2. Calibration

5.2.1. Cell Constant Setting

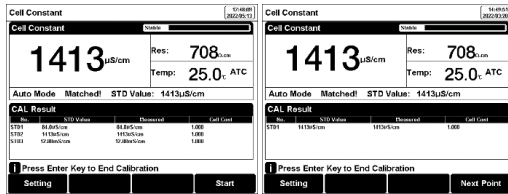
1. In the idle status, press soft button F1 "Setting" -"Conductivity calibration".
2. Press the "Constant type" to select the "1".
3. Press "Cal. Type" to select the "Input Manually".
4. Enter the constant manually.
5. Press "Enter" key to save the setting and return to the idle status.



5.2.2. Manual Calibration

1. In the idle status, press soft button F1 "Setting" -"Conductivity calibration".
2. Press the "Constant type" to select the "1".
3. Press "Cal. Type" to select the "Cal by Standards".
4. Prepare one or more standard conductivity solution (e.g., 1413 μ S/cm conductivity solution).
5. Prepare a thermostatic bath, and set the temperature to (25.0 \pm 0.1) $^{\circ}$ C.
6. Place a standard conductivity solution in a thermostatic bath, and set the temperature to (25.0 \pm 0.1) $^{\circ}$ C.
7. Place the conductivity electrode into a standard solution.

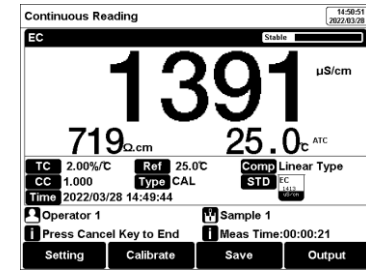
8. When the conductivity and temperature reading (e.g. 1413 μ S/cm, 25.0°C) are stable.
9. If choosing one-point calibration, press "Enter" to end the calibration.
10. If choosing multi-points calibration (up to 3), press "Next" to repeat the operation.
11. The meter saves calibration data automatically and turn to idle status.



5.3. Measurement

1. Setting.
 - 1) Set the parameters (e.g. conductivity).
 - 2) Set the reading mode (e.g., continuous reading, auto-reading, or timed format).
 - 3) Set the temperature compensation (e.g., Linear compensation, temperature compensation coefficient 2.00%/°C).

- 4) Set the reference temperature (e.g., 25°C).
 2. Rinse the conductivity electrode with DI water, dry out.
 3. Put the measurement end of the electrode into the sample solution.
 4. In the idle status, press the soft button F4 "Measure" to enter into measurement status.
 5. When the reading is stable, read the results.
 6. Press the "Save" to save the measurement results.
 7. Press the "Output" to print the measurement result when connect to the printer.
 8. Between measurements, stored EC electrode in distilled or deionized water.
 9. After measurement, rinse the EC electrode with deionized water thoroughly and put on the electrode protection cap.
- Note: For accurate measurement, please calibrate and measure at the same temperature.



6. Dissolved Oxygen Meter Operation Quick Guide

6.1. Preparation

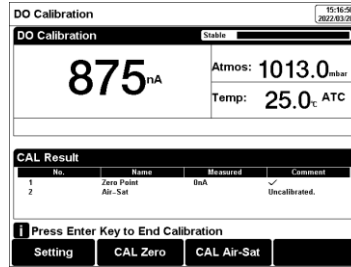
1. Install the DO electrode follow the steps:
 - 1) Take the cap off the electrodes, rinse the cap with DI water and dry out.
 - 2) Rinse the inner electrode with DI water and dry the electrode.
 - 3) Add the filling solution (electrolyte) into the membrane cap up to 3/4.
 - 4) Install the cap onto the electrode.
2. Polarographic DO electrodes need to be polarized before use:
 - 1) Connect the DO electrode to the meter.

- 2) Turn on the meter, wait for 1 hour and the electrode are auto polarized.
- 3) When the electrodes are unplugged from the meter for no more than 1 hour, measurements are allowed after 25 minutes of polarization.

3. Prepare the samples and standards.

6.2. Calibration

1. Press “Calibration” to select “DO Calibration”.
2. Place the electrode into oxygen-free solution.
3. When the reading is stable, press “CAL Zero” to do zero oxygen calibration.
4. Rinse the electrode with DI water again, place the probe in the upper part of a bottle filled with air-saturated (well shaken) water.
5. When the reading is stable, press “Cal Air-Sat” to do full oxygen calibration.
6. After calibration, press “Enter” to end the calibration.



6.3. Measurement

1. Setting.
 - 1) Set the parameters (e.g., DO).
 - 2) Set the reading mode (e.g., continuous reading, auto-reading, or timed format).
 - 3) Set the salt compensation.
 - 4) Set the Atmos compensation.
2. Put the electrode into test solution under test and shake the electrode gently in a circle, in a circular motion, or use a stirrer to avoid air bubbles during the process.
3. In the idle status, press F4 "Measure" to enter into measurement status.
4. When the reading is stable, read the results.
5. Press the "Save" to save the measurement results.

6. Press the "Output" to print the measurement result when connect to the printer.
7. During measurement, stored DO electrode in distilled or deionized water.
8. After measurement, rinse the DO electrode with deionized water thoroughly. Add the filling solution (electrolyte) into the membrane cap up to 3/4, and Install the cap onto the electrode.

Note 1: Please calibrate and polarized the electrode before the measurement for an accurate measurement.

Note 2: The air press is set at 101.3kPa and the salinity is set as 0mg/L. See the manual for details on changes to these parameters

