

## M310F-A Multi-parameter Analyzer

## **Features**

- LCD display screen, 3.5 inches.
- Multi-reading feature allows auto-read, timed-read and continuous-read.
- Automatic/Manual temperature compensation ensures accurate results.
- Auto-hold feature senses and locks the measurement endpoint.
- Data capacity of up to 500 sets for each parameter (GLP-compliant).
- Support for USB communication.
- Auto-power off feature effectively extends the battery service life.
- Reset feature automatically resumes all settings back to factory default options.
- IP65 waterproof. The portable meter is suitable for fields measurements and out door measurements.

#### pH

- 1. 1-5 points calibration with Standard Recognition.
- 2. Selectable pH buffer groups, including NIST, DIN, GB, USA.
- 3. Automatic electrode diagnosis with pH slope and offset display.

#### Ion

- 1. 1-5 points calibration.
- 2. Selectable measurement unit, including µg/L, mg/L, g/L, mmol/L, pX, ppm, ppb, etc.
- 3. Measurement modes are supported, including Direct Reading mode, Standard Addition mode, Sample Addition mode and GRAN mode.
- 4. Over 10 methods are built-in, including F-, Cl-, Br-, I-, NO<sub>3</sub>-, BF<sub>4</sub>-, NH<sub>4</sub>+, K+, Na+, Ca<sup>2+</sup>, Cu<sup>2+</sup>, Pb<sup>2+</sup>, Ag<sup>+</sup> and etc., user-defined method is supported.

## Conductivity

- 1. 1-3 points calibration with Standard Recognition.
- 2. Settable parameters, including cell constant, temperature compensation coefficient, and TDS factor.
- 3. Temperature compensation type (none, linear, pure water).

## Includes

- 1. E-301-QC 3 in 1 pH composite electrode
- 2. DJS-1VTC EC electrode
- 3. NIST pH standard solution(4.01, 7.00, 10.01), 50ml/vial
- 4. 1413µS/cm EC standard solution, 50ml, 1 vial
- 5. Electrode holder
- 6. Silicone rubber case
- 7. Wristbands
- 8. Carrying Case





# **Specifications**

| Parameters   | Model           |                               | M310F-A   |
|--|-----------------|-------------------------------|---|
| Resolution   | Parameters      |                               | pH/EC/ISE/Temp. (mV/pX/Resistivity/TDS/Sal.)      |
| PH   |                 | Range                         | -2.00 to 20.00 pH                                 |
| PII   Calibration Points   Up to 5   | pН              | Resolution                    | 0.1, 0.01 pH                                      |
| Standard Customization   Ves   |                 | Accuracy                      | ±0.01 pH  |
| Standard Customization   Yes   |                 | Calibration Points            | Up to 5   |
| Slope Limit   Yes  |                 | Standard Customization        | Yes   |
| Range  |                 | Standard Recognition          | NIST, GB, USA and DIN buffers                     |
| Resolution   0.1   |                 | Slope Limit                   | Yes   |
| Accuracy   |                 | Range                         | -2000.0 to 2000.0 mV                              |
| Range  | mV              | Resolution                    | 0.1   |
| Resolution   0.1, 0.01 pX  |                 | Accuracy                      | ±0.3 mV or ±0.1%                                  |
| Accuracy   |                 | Range                         | -2.00 to 20.00 pX                                 |
| Calibration Points   Up to 5   |                 | Resolution                    | 0.1, 0.01 pX                                      |
| Range  | pX              | Accuracy                      | ±0.01 pX  |
| Inits  |                 | Calibration Points            | Up to 5   |
| Resolution   |                 | Range                         | 1.000e-9 to 9.999e+9                              |
| Accuracy   |                 | Units                         | mol/L, mmol/L, g/L, mg/L, μg/L, ppm, ppb          |
| Calibration Points   Up to 5   | ISE             | Resolution                    | Up to 4 significant digits                        |
| Range   0.000 μS/cm to 500 mS/cm   |                 | Accuracy                      | ±0.5%   |
| Resolution   0.001μS/cm minimum, various with range selection  |                 | Calibration Points            | Up to 5   |
| Accuracy   |                 | Range                         | 0.000 μS/cm to 500 mS/cm                          |
| Reference Temperature   20, 25 °C  |                 | Resolution                    | 0.001μS/cm minimum, various with range selection  |
| Reference Temperature   20, 25 °C  | Conductivity    | Accuracy                      | ±1.0% FS  |
| Standard Recognition   84μS/cm, 1413μS/cm, 12.88mS/cm  | Conductivity    | Reference Temperature         | 20, 25 °C   |
| Resistivity         Range         5.00 Ω·cm~20.00 MΩ·cm           Resolution         0.01 Ω·cm minimum           Accuracy         ±1.0% FS           Range         0.00 ppm~300ppt           Resolution         0.01 ppm minimum, various with range selection           Accuracy         ±1.0% FS           Range         0.0~80.0 ppt           Resolution         0.1ppt           Accuracy         ±2ppt           Range         -5 to 110 °C, 23 to 230 °F           Unit         °C, °F           Resolution         0.1           Accuracy         ±0.2°C           Reading Mode         Auto Read (Fast, Medium, Slow), Timed, Continuous           Measurement         Reading Prompts         Reading, Stable, Locked           Temp. Compensation         ATC, MTC           Data management         Data Storage         500 results each           GLP Features         Yes           Inputs         pH Electrode         BNC(Q9)   |                 | Calibration Points            | Up to 3   |
| Resistivity   Resolution   0.01 Ω·cm minimum   |                 | Standard Recognition          | 84μS/cm, 1413μS/cm, 12.88mS/cm                    |
| Accuracy   |                 | Range                         | 5.00 Ω·cm~20.00 MΩ·cm                             |
| Range 0.00 ppm~300ppt  Resolution 0.01 ppm minimum, various with range selection  Accuracy ±1.0%FS  Range 0.0~80.0 ppt  Resolution 0.1ppt  Accuracy ±2ppt  Range -5 to 110 °C, 23 to 230 °F  Unit °C, °F  Resolution 0.1  Accuracy ±0.2°C  Resolution 0.1  Accuracy ±0.2°C  Reading Mode Auto Read (Fast, Medium, Slow), Timed, Continuous  Reading Prompts Reading, Stable, Locked  Temp. Compensation ATC, MTC  Data management Data Storage 500 results each  GLP Features Yes  pH Electrode BNC(Q9)  | Resistivity     | Resolution                    | 0.01 Ω·cm minimum                                 |
| TDS Resolution O.01 ppm minimum, various with range selection Accuracy ±1.0%FS  Range O.0~80.0 ppt Resolution O.1ppt Accuracy ±2ppt  Range -5 to 110 °C, 23 to 230 °F Unit °C, °F Resolution O.1 Accuracy ±0.2°C Reading Mode Auto Read (Fast, Medium, Slow), Timed, Continuous Reading Prompts Reading, Stable, Locked Temp. Compensation ATC, MTC Data management Data management Inputs  PRESOLUTION Accuracy FREAD ATC, MTC ACCURACY FREAD STORES FREAD STO |                 | Accuracy                      | ±1.0% FS  |
| Accuracy   |                 | Range                         | 0.00 ppm~300ppt                                   |
| Range  | TDS             | Resolution                    | 0.01 ppm minimum, various with range selection    |
| Salinity  Resolution Accuracy  #2ppt  Range -5 to 110 °C, 23 to 230 °F  Unit  °C, °F  Resolution 0.1  Accuracy #0.2°C  Reading Mode Auto Read (Fast, Medium, Slow), Timed, Continuous  Reading Prompts Reading, Stable, Locked  Temp. Compensation ATC, MTC  Data Storage GLP Features  PH Electrode BNC(Q9)   |                 | Accuracy                      | ±1.0%FS   |
| Accuracy ±2ppt  Range -5 to 110 °C, 23 to 230 °F  Unit °C, °F  Resolution 0.1  Accuracy ±0.2°C  Reading Mode Auto Read (Fast, Medium, Slow), Timed, Continuous  Reading Prompts Reading, Stable, Locked  Temp. Compensation ATC, MTC  Data management  Data Storage 500 results each  GLP Features Yes  Inputs  Management Yes  BNC(Q9)  |                 | Range                         | 0.0~80.0 ppt                                      |
| TemperatureRange-5 to 110 °C, 23 to 230 °FUnit°C, °FResolution0.1Accuracy±0.2°CAccuracyEading ModeAuto Read (Fast, Medium, Slow), Timed, ContinuousReading PromptsReading, Stable, LockedTemp. CompensationATC, MTCData managementData Storage500 results eachGLP FeaturesYesInputspH ElectrodeBNC(Q9)   | Salinity        | Resolution                    | 0.1ppt  |
| Temperature    Unit   °C, °F     Resolution   0.1     Accuracy   ±0.2°C     Reading Mode   Auto Read (Fast, Medium, Slow), Timed, Continuous     Reading Prompts   Reading, Stable, Locked     Temp. Compensation   ATC, MTC     Data management   Data Storage   500 results each     GLP Features   Yes     Inputs   pH Electrode   BNC(Q9)  |                 | Accuracy                      | ±2ppt   |
| Temperature  Resolution  Accuracy  #0.2°C  Reading Mode  Reading Prompts  Reading, Stable, Locked  Temp. Compensation  Data management  Data Storage  GLP Features  pH Electrode  PH Electrode  BNC(Q9)  |                 | Range                         | -5 to 110 °C, 23 to 230 °F                        |
| Resolution 0.1  Accuracy ±0.2°C  Reading Mode Auto Read (Fast, Medium, Slow), Timed, Continuous  Reading Prompts Reading, Stable, Locked  Temp. Compensation ATC, MTC  Data Storage 500 results each  GLP Features Yes  pH Electrode BNC(Q9)   | Temperature     | Unit                          | °C, °F  |
| MeasurementReading ModeAuto Read (Fast, Medium, Slow), Timed, ContinuousReading PromptsReading, Stable, LockedTemp. CompensationATC, MTCData managementData Storage500 results eachGLP FeaturesYesInputspH ElectrodeBNC(Q9)  |                 | Resolution                    | 0.1   |
| MeasurementReading PromptsReading, Stable, LockedTemp. CompensationATC, MTCData managementData Storage500 results eachGLP FeaturesYesInputspH ElectrodeBNC(Q9)   |                 | Accuracy                      | ±0.2°C  |
| Temp. Compensation ATC, MTC  Data Storage 500 results each  GLP Features Yes  pH Electrode BNC(Q9)   |                 | Reading Mode                  | Auto Read (Fast, Medium, Slow), Timed, Continuous |
| Data Storage 500 results each GLP Features Yes Inputs  BNC(Q9)   | Measurement     | Reading Prompts               | Reading, Stable, Locked                           |
| The second of th |                 | Temp. Compensation            | ATC, MTC  |
| Inputs  GLP Features Yes  BNC(Q9)  | Data management | Data Storage                  | 500 results each                                  |
| Inputs   |                 | GLP Features                  | Yes   |
| Conductivity with Temp. Probe 5-pin aviation connector   | Inputs          | pH Electrode                  | BNC(Q9)   |
|  |                 | Conductivity with Temp. Probe | 5-pin aviation connector                          |



| Outputs         | USB                 | PC, printer  |
|-----------------|---------------------|--|
|                 | Backlight           | Yes  |
| Display options | Auto Shutdown       | 300, 600, 1200, 1800, 3600 sec., off                                     |
|                 | IP Rating           | IP65   |
|                 | Date and Time       | Yes  |
| Inputs          | Power               | Rechargeable Lithium battery, AC Adapter, 100-240V AC input, DC5V output |
|                 | Dimensions          | 80×225×35 mm   |
|                 | Weight              | 400g (0.88 lb)   |
|                 | Dimensions (Carton) | 490×410×220 mm   |
|                 | Weight (Gross)      | 5.5 kg   |