

# MW180 MAX

## pH/ORP/EC/TDS/NaCl/Temperature Laboratory Bench Meter



**MW180 MAX** is a compact and versatile bench meter with a user-friendly interface that can measure six different parameters – pH, ORP, EC, TDS (Total Dissolved Solids), percentage of salinity (NaCl%) and temperature – when paired with the respective probe.

pH calibration can be performed in up to 5-point (selectable between 7 standard calibration buffers and two custom buffers), to improve measurement reliability even when testing samples with wide differences in pH.

The auto-ranging feature for both EC and TDS measurements automatically sets the most suitable resolution for the tested sample. All measurements can be automatically (ATC) or manually temperature compensated (MTC) with a user-selectable compensation coefficient. The temperature compensation can be disabled if the actual conductivity value is required (No TC).

**MW180 MAX** has GLP data review and the data can be transferred to a PC through a USB port.

A unique device identity code protects against the risks of loss and misuse.

Specifications	MW180 MAX
Range	<p>pH -2.00 to 20.00 pH; -2.000 to 20.000 pH</p> <p>ORP <math>\pm 2000</math> mV</p> <p>EC 0.00 to 29.99 <math>\mu\text{S}/\text{cm}</math>; 30.0 to 299.9 <math>\mu\text{S}/\text{cm}</math>; 300 to 2999 <math>\mu\text{S}/\text{cm}</math>; 3.00 to 29.99 mS/cm; 30.0 to 200.0 mS/cm; up to 500.0 mS/cm (absolute cond.*)</p> <p>TDS 0.0 to 14.99 mg/L (ppm); 15.0 to 149.9 mg/L (ppm); 150 to 1499 mg/L (ppm); 1.50 to 14.99 g/L (ppt); 15.0 to 100.0 g/L (ppt); up to 400.0 g/L absolute TDS* (with 0.80 factor)</p> <p>Salinity 0.0 to 400.0% NaCl, 2.00 to 42.00 PSU, 0.00 to 80.00 g/L</p> <p>Temp -20.0 to 120.0°C / -4.0 to 248.0°F</p>
Resolution	<p>pH 0.01 pH; 0.002 pH</p> <p>ORP 0.1 mV</p> <p>EC 0.01 <math>\mu\text{S}/\text{cm}</math>; 0.1 <math>\mu\text{S}/\text{cm}</math>; 1 <math>\mu\text{S}/\text{cm}</math>; 0.01 mS/cm; 0.1 mS/cm;</p> <p>TDS 0.01 mg/L; 0.1 mg/L; 1.0 mg/L; 0.01 g/L; 0.1 g/L</p> <p>Salinity 0.1% NaCl, 0.01 PSU, 0.01 g/L</p> <p>Temp 0.1°C / 0.1°F</p>
Accuracy	<p>pH <math>\pm 0.01</math> pH; <math>\pm 0.002</math> pH</p> <p>ORP <math>\pm 1</math> mV</p> <p>EC <math>\pm 1\%</math> of reading <math>\pm (0.05 \mu\text{S}/\text{cm}</math> or 1 digit)</p> <p>TDS <math>\pm 1\%</math> of reading <math>\pm (0.03 \text{ ppm}</math> or 1 digit)</p> <p>Salinity <math>\pm 1\%</math> reading</p> <p>Temp <math>\pm 0.5^\circ\text{C}</math> / <math>\pm 0.9^\circ\text{F}</math></p>
Temperature Compensation	<p>ATC – automatic, from -20 to 120 °C (-4 to 248 °F)</p> <p>MTC – manual, from -20 to 120 °C (-4 to 248 °F)</p> <p>NO TC – without temperature compensation</p>
Temperature Coefficient	0.00 to 6.00%/°C (EC and TDS only)
TDS Factor	0.40 to 0.80 (default value is 0.50)
Logging memory	Two independent storage spaces. Each save location can contain max. 1000 log records (stored in up to 100 lots). On demand, 200 logs; on stability, 200 logs; interval logging, 1000 logs
pH Electrode	<b>MA917B/1</b> (included)
EC/TDS/NaCl/Temp. Probe	<b>MA814DB/1</b> (included)
Temperature probe	<b>MA831R</b>
PC connectivity	1 USB port, 1 micro USB port
Power supply	12 VDC adapter (included)
Battery type	internal
Battery life	8 hours
Environment	0 to 50°C; max RH 95%
Packaging dimensions	335 x 120 x 255 mm
Packaging weight	2.44 kg

(\*) Absolute conductivity (or TDS) is the conductivity (or TDS) value without temperature compensation



### Accessories

<b>MA9004</b>	pH 4.01 buffer, 230 mL bottle
<b>MA9007</b>	pH 7.01 buffer, 230 mL bottle
<b>MA9010</b>	pH 10.01 buffer, 230 mL bottle
<b>MA9015</b>	Electrode storage solution, 230 mL bottle
<b>MA9016</b>	Electrode cleaning solution, 230 mL bottle
<b>MA9112</b>	pH 12.45 buffer solution, 230 mL bottle
<b>MA9060</b>	12880 $\mu\text{S}/\text{cm}$ calibration solution, 230 mL bottle
<b>MA9061</b>	1413 $\mu\text{S}/\text{cm}$ calibration solution, 230 mL bottle
<b>MA9063</b>	84 $\mu\text{S}/\text{cm}$ calibration solution, 230 mL bottle
<b>MA9065</b>	111.8 mS/cm calibration solution, 230 mL bottle
<b>MA9066</b>	100% NaCl calibration solution, 230 mL bottle
<b>MA9069</b>	5000 $\mu\text{S}/\text{cm}$ solution, 230 mL bottle
<b>MA9310</b>	12 VDC Adapter, 220 V
<b>MA9311</b>	12 VDC Adapter, 110 V
<b>MA9315</b>	Electrode Holder
<b>MA917B/1</b>	Double junction refillable pH electrode
<b>MA814DB/1</b>	EC/TDS/NaCl/Temperature probe with DIN connector and 1 m cable
<b>MA924B/1</b>	$\pm 2000$ mV Glass ORP electrode, refillable with BNC connector and 1 meter cable
<b>SE300</b>	Platinum ORP electrode with 1 meter cable
<b>MA831R</b>	Temperature probe
<b>MA9350</b>	RS232 connection cable with 2 meters cable

### Ordering Information

**MW180 MAX** is supplied complete with

- **MA917B/1** pH Electrode
- **MA814DB/1** EC/TDS/NaCl/Temperature probe
- **MA831R** Temperature Probe
- **M10004** pH 4.01 Sachet Buffer solution

- **M10007** pH 7.01 Sachet Buffer solution
- **M10010** pH 10.01 Sachet Buffer solution
- **M10031** 1413  $\mu\text{S}/\text{cm}$  calibration solution
- **M10016** Sachet Electrode Cleaning solution
- **MA9315** Electrode Holder

- Graduated pipette
- 12 VDC adapter
- USB cable
- Instrument quality certificate
- Instruction manual