

## SPECIFICATIONS:



### MW100

RANGE	0.0 to 14.0 pH
RESOLUTION	0.1 pH
ACCURACY (@25°C)	±0.2 pH
TYPICAL EMC DEVIATION	±0.1 pH
pH ELECTRODE	SE220 (included)
ENVIRONMENT	0 to 50°C, 95% RH max.
BATTERY TYPE	1 x 9V alkaline (included)
BATTERY LIFE	approximately 300 hours of use
DIMENSIONS	143 x 80 x 32 mm
WEIGHT	220 g (with battery) meter only

### OPTIONAL ACCESSORIES:

- M10004B** pH 4.01 buffer solution, 20 mL sachet (25 pcs)
- M10007B** pH 7.01 buffer solution, 20 mL sachet (25 pcs)
- M10010B** pH 10.01 buffer solution, 20 mL sachet (25 pcs)
- M10000B** Electrode rinse solution, 20 mL sachet (25 pcs)
- MA9015** Electrode storage solution, 220 mL bottle
- SE220** pH electrode with BNC connector and 1 m cable
- MA950** Portable meter wall mounting kit

### WARRANTY:

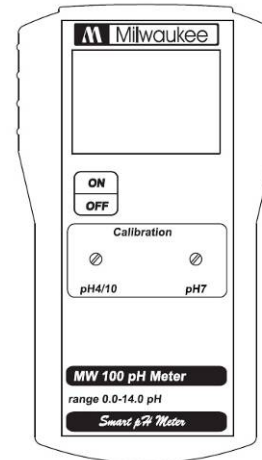
This instrument is warranted from all defects in materials and manufacturing for a period of **two years** from the date of purchase. The **electrode is warranted for a period of six months**. If during this period, the repair or replacement of parts is required, where the damage is not due to negligence or erroneous operation by the user, please return the parts to either dealer or our office and the repair will be effected free of charge.

**Note:** We reserve the right to modify the design, construction and appearance of our products without advance notice.



## USER MANUAL PORTABLE pH METER MODEL: MW100

*Smart pH Meter*

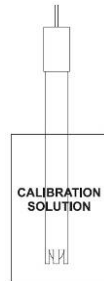
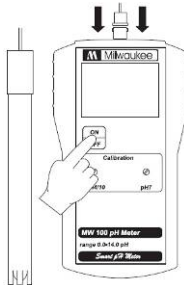


## OPERATION:

- The meter is supplied complete with a 9V battery. Slide off the battery compartment cover on the back of the meter. Install the battery into the battery clip connector while observing polarity.
- Always remove the electrode protective cap before taking any measurement. If the electrode has been left dry, soak the tip (bottom 2.5 cm) in rinse solution (**M10000B**) for a few minutes to reactivate it.
- Connect the pH electrode to the BNC socket on the top of the meter.
- Make sure that the meter has been calibrated before taking any measurements (see Calibration Procedure).
- Immerse the tip (2.5 cm) of the pH electrode into the sample.
- Turn the instrument on by pressing the ON/OFF key.
- Allow the reading to stabilize before taking measurements.
- After measurements, switch the meter off and store the electrode with a few drops of storage solution (**MA9015**) in the protective cap.

## CALIBRATION PROCEDURE:

- Remove the protective cap from the electrode.
- Rinse tip off with distilled water or a small quantity of pH 7.
- Immerse the electrode tip into a new sachet of pH7 calibration solution and allow the reading to stabilize.
- Adjust the pH7 (OFFSET) calibration trimmer to



display "7.0 pH".

- Open a new sachet of pH4 calibration solution and use a small quantity to rinse the electrode.
- Immerse the electrode tip inside the pH4 sachet and allow the reading to stabilize.
- Adjust the pH4/pH10 (SLOPE) calibration trimmer to read "4.0 pH".
- The calibration is now complete and the meter is ready to take measurements.
- It is suggested the meter be calibrated at least once a month, after a prolonged period of inactivity, and after electrode replacement.

## BATTERY REPLACEMENT:

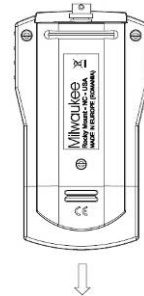
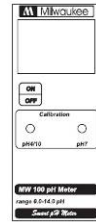
When the battery becomes weak the meter will display " ".

When the low battery indicator appears, the battery has only about 50 hours of working time left. A low battery will result in unreliable measurements.

Prompt battery replacement is required.

Battery replacement must only take place in a non-hazardous area using an alkaline 9V battery.

Turn the meter off, slide the battery compartment cover located at the rear of the meter off and replace the 9V battery with a new one. Make sure the battery contacts are fully engaged in the connector, seat the battery in its compartment and replace the cover.



## SPECIFICATIONS:

### RANGE / RESOLUTION

<b>MW301</b>	0 to 1999 $\mu$ S/cm / 1 $\mu$ S/cm
<b>MW302</b>	0.0 to 10.0 mS/cm / 0.1 mS/cm
<b>MW401</b>	0 to 1999 mg/L (ppm) / 1 mg/L
<b>MW402</b>	0.0 to 10.0 g/L (ppt) / 0.1 g/L

**ACCURACY (@25°C)**  $\pm$ 2% Full Scale

### CONVERSION FACTOR

<b>MW401</b>	0.5
<b>MW402</b>	0.5

### CALIBRATION SOLUTIONS

<b>MW301 &amp; MW302</b>	1413 $\mu$ S/cm = 1.41 mS/cm ( <b>M10031B</b> )
<b>MW401</b>	1382 mg/L ( <b>M10032B</b> )
<b>MW402</b>	6.44 g/L ( <b>M10038B</b> )

### CONDUCTIVITY PROBE

<b>MW301 &amp; MW401</b>	<b>MA811D/1</b> (included)
<b>MW302 &amp; MW402</b>	<b>MA812D/1</b> (included)

**TEMP.COMPENSATION** Automatic, from 5 to 50°C

**ENVIRONMENT** 0 to 50°C, 95% RH max.

**BATTERY TYPE** 1 x 9V alkaline (included)

**BATTERY LIFE** approximately 300 hours of use

**DIMENSIONS** 143 x 80 x 32 mm

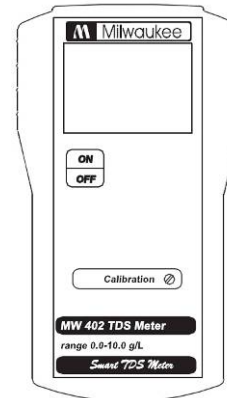
**WEIGHT** 220 g (with battery) meter only

### OPTIONAL ACCESSORIES:

<b>M10031B</b>	1413 $\mu$ S/cm (1.41 mS/cm) calibration solution, 20 mL sachet (25 pcs)
<b>M10032B</b>	1382 mg/L solution, 20 ml sachet (25 pcs)
<b>M10038B</b>	6.44 g/L solution, 20 ml sachet (25 pcs)
<b>MA811D/1</b>	EC/TDS probe w/DIN connector and 1m cable
<b>MA812D/1</b>	EC/TDS probe w/DIN connector and 1m cable
<b>MA950</b>	Portable meter wall mounting kit

## PORTABLE CONDUCTIVITY & TDS METERS MODELS: MW301, MW302, MW401, MW402

*Smart pH Meter*



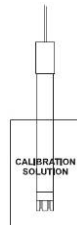
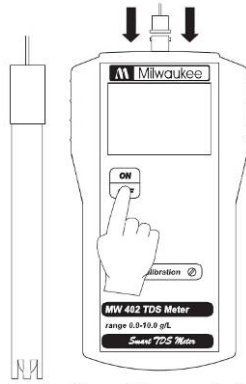
**Milwaukee**

### **OPERATION:**

- The meter is supplied complete with a 9V battery. Slide off the battery compartment cover on the back of the meter. Install the battery into the battery clip connector while observing polarity.
- Connect the probe to the meter securely by aligning the pins with the plug in.
- Make sure that the meter has been calibrated before taking any measurements (see Calibration Procedure).
- Immerse the tip (4 cm) of the EC/TDS probe into the sample. If possible use plastic beakers or containers to minimize any EMC interference.
- Turn the instrument on by pressing the ON/OFF key.
- Wait for the temperature sensor to reach the thermal equilibrium before taking any measurements.
- After use, the instrument should be switched off and the probe should be cleaned and dried. Whenever needed, use alcohol for better cleaning.

### **CALIBRATION PROCEDURE:**

- Clean the probe with alcohol and let it dry.
- Open a sachet of conductivity calibration solution (see Specifications) and immerse the probe making sure that the metal pins are completely submerged.
- Wait until the thermal equilibrium is reached and the reading is stable.
- Adjust the calibration trimmer on the front panel of the instrument with the supplied screwdriver until the display shows:



"1410  $\mu\text{S}$ " for **MW301**  
"5000  $\mu\text{S}$ " for **MW302**  
"1380 mg/L" (ppm) for **MW401**  
"6.4 g/L" (ppt) for **MW402**



- The calibration is now complete and the meter is ready for use.

The instrument should be re-calibrated at least once a month, or whenever the probe or battery is changed.

### **BATTERY REPLACEMENT:**

When the battery becomes weak the meter will display " ". When the low battery indicator appears, the battery has only about 50 hours of working time left. A low battery will result in unreliable measurements. Prompt battery replacement is required.

Battery replacement must only take place in a non-hazardous area using an alkaline 9V battery.

Turn the meter off, slide the battery compartment cover located at the rear of the meter off and replace the 9V battery with a new one. Make sure the battery contacts are fully engaged in the connector, seat the battery in its compartment and replace the cover.

### **WARRANTY:**

This instrument is warranted from all defects in materials and manufacturing for a period of **two years** from the date of purchase.

The **probe is warranted for a period of six months.**

If during this period, the repair or replacement of parts is required, where the damage is not due to negligence or erroneous operation by the user, please return the parts to either dealer or our office and the repair will be effected free of charge.

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