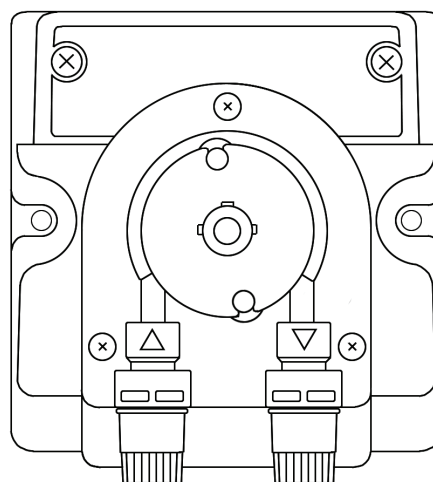
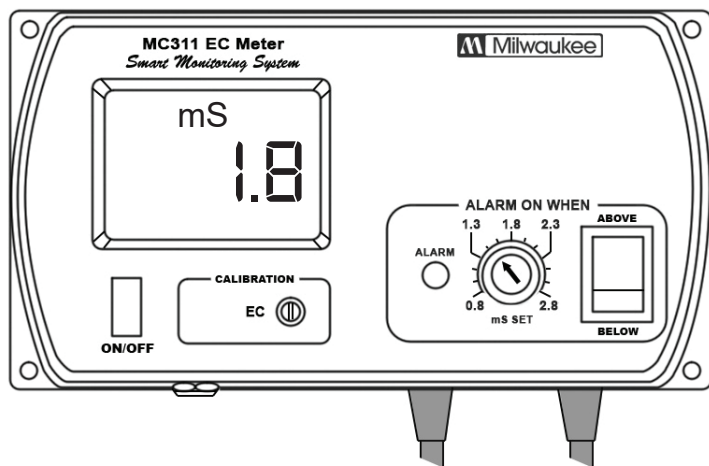




# USER MANUAL

## MC745 MILWAUKEE MC311 EC CONTROLLER WITH TWO MP810 1,5 L/H DOSING PUMPS

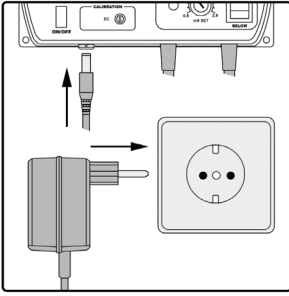


*Smart Monitoring System*

### SPECIFICATIONS

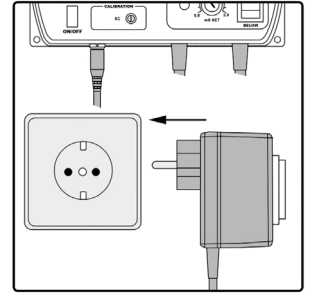
	MC311 EC Meter	MP810 Peristaltic Dosing Pump
<b>Range</b>	0.0 to 10.0 mS	<ul style="list-style-type: none"><li>• Constant Dosing flow of 1,5 l/h (25 cc/min)</li><li>• No regulation</li><li>• Maximum pressure: 1 bar</li><li>• Made of Polipropilene (PP)</li><li>• Peristaltic tube in Santoprene</li><li>• Power supply: 230 VAC <math>\pm</math> 10%</li></ul>
<b>Resolution</b>	0.1 mS	
<b>Accuracy</b>	$\pm$ 2% Full scale	
<b>Setpoint</b>	0.8 to 2.8 mS	
<b>Alarm / Output</b>	active when measure is higher/lower than selected setpoint depending on user selection	
<b>Power Socket</b>	115VAC, 2A, 60Hz or 230VAC, 1A, 50Hz	
<b>Power drivers</b>	MA812/2 (included)	
<b>pH electrode</b>	0 to 50°C, 95% RH not condensing	
<b>Environment</b>	12 VDC (included)	
<b>Power supply</b>	148.5 x 82.5 x 32 mm	
<b>Dimensions</b>	180 g	
<b>Weight</b>		

## **INSTALLATION OF CONTROLLER:**

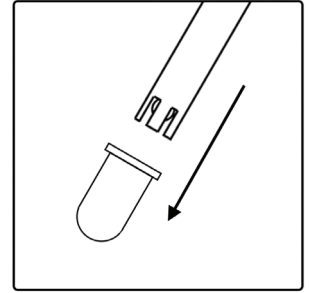


Connect the supplied 240VAC/12VDC power adapter to the meter and to the main line.

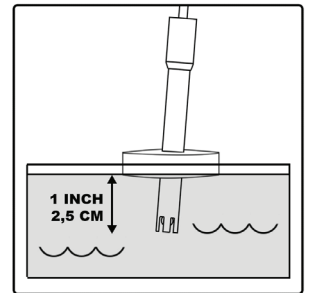
Connect the connection base (black and white outlet) to the main line.



Always remove the probe's protective cap before taking any measurement. Make sure that the meter has been calibrated before taking any measurements



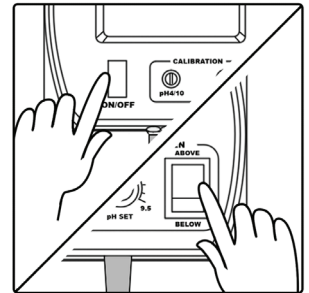
Immerse the tip (2.5 cm) of the EC probe into the sample. (for example it can float with the help of a piece of polystyrol).



Turn the instrument on by pressing the ON/OFF button.

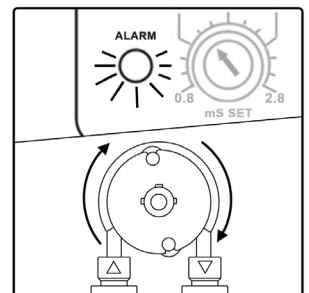
The nature of the setpoint can be selected by setting the switch to the desired position (ABOVE or BELOW).

Allow the reading to stabilize and the meter will start continuous monitoring.



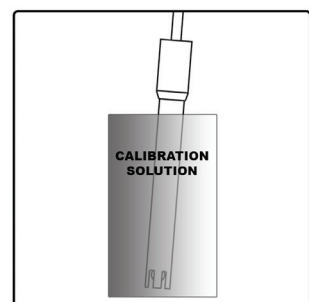
A blinking alarm will indicate when the measured EC value is higher or lower than selected setpoint, depending on user selection. When the alarm is activated, it also activates the connection base and the auxiliary equipment.

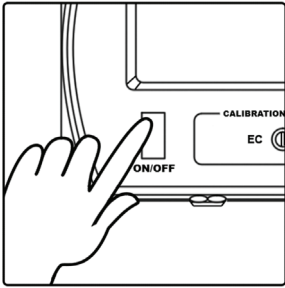
The setpoint can be selected by adjusting the central front knob to the desired value. The selectable range is from 0.8 to 2.8 mS.



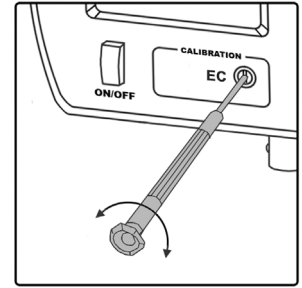
## **CALIBRATION:**

- Clean the probe with alcohol and let it dry (if a more thorough cleaning is required, brush the metal pins with fine sandpaper and then rinse with water).
- Open a sachet of suitable conductivity calibration solution and immerse the probe, making sure that metal pins are completely submerged. Use M10031 (1413  $\mu\text{S}/\text{cm}$ ).





- Turn the meter on by pressing the ON/OFF key.
- Wait until the reading stabilize for temperature variations, and then adjust the EC calibration trimmer on the front panel with the supplied screwdriver until the display shows: “1.4” mS.



The calibration is now complete and the meter is ready for use. The instrument should be re-calibrated at least once a month, or when the probe is changed.

## INSTALLATION OF THE MP810 1,5 L/H DOSING PUMP

Connect the rigid tube to the pump (aspiration – arrow upwards). Fix the white filter on the other end of the tube, where the dissolved pH reducing acid will be drawn in – to prevent small objects entering the pump.

Connect the soft tube to the pump (impulsion – arrow downwards). The injection fitting will be placed at the end of this tube only to inject into a piping. (This fitting has a thread that links it to the piping.)

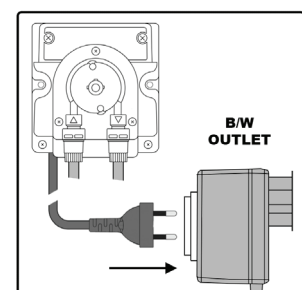
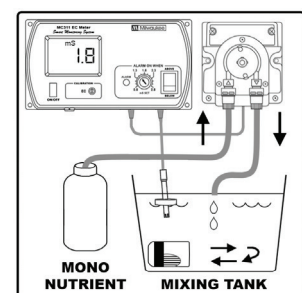
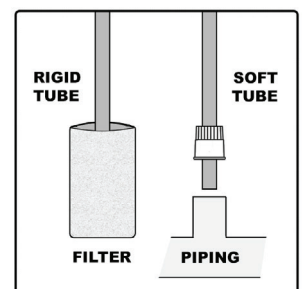
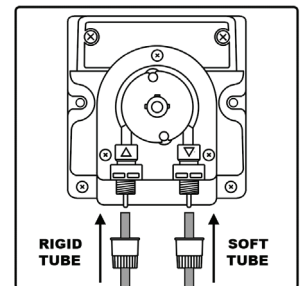
Mount the bracket in the wall in upright position above the water container (which contains a solution of EC reducing acid and water).

Place the pump in vertical position (with the tubes below) on the wall, above and centered with the “Mounting bracket“. Then go down the pump until it is joined with the bracket.

Connect the pump to the MC311 EC controller (on the black and white outlet). The pump will discharge 0,08 cL every 2 seconds when active.

**Place the plug and B/W outlet far away from water!**

*Before servicing (maintenance) on the pump (e.g. changing tube), please disconnect the equipment.*



It is suggested to dissolve 10 cL of Mono-nutrient in a 5L container of water. Depending on the volume of your tank and the brand of your Mono-nutrient (and whether it is more or less concentrated), this quantity can be increased later. It is better to dissolve more than less. It is suggested to use an airstone on the bottom of your tank. The pump can be attached directly to the container of the solution.

**IMPORTANT:** For a smooth adjustment of the EC of your nutrient mix, it is advisable to dilute each liquid nutrient with water in a jug. Example : For a 100 litre tank, dilute 500cl of nutrient in a 5 litre jug of water. This quantity can be adjusted according to the volume of your tank, the concentration of your nutrient and the power of your recirculation pump or air diffuser stone.

**VERY IMPORTANT:** Both dosing pumps work at the same time and inject the same amount of fertilizer A and fertilizer B. If your fertilizer A + B is not 50%/50%, you will have to dilute your fertilizers proportionally. Example : For a 40%/60% fertiliser A + B, put 4 caps of the bottle A and fill it with water, and on the bottle B, put 6 caps of the fertiliser B and fill it with water (adjust the quantity of fertiliser as necessary).

**VERY IMPORTANT:** To obtain an even mixture and an immediate dilution of your fertilizers, install at the bottom of your tank a recirculation pump and/or an air diffuser stone.

### **OPTIONAL ACCESSORIES:**

- M10000B** Electrode rinse solution, 20 ml sachet (25 pcs)
- M10031B** 1413  $\mu\text{S}/\text{cm}$  calibration solution, 20 ml sachet (25 pcs)
- M10032B** 1382 ppm calibration solution, 20 ml sachet (25 pcs)
- MA9061** 1413  $\mu\text{S}/\text{cm}$  calibration solution, 230 ml bottle
- MA9062** 1382 ppm calibration solution, 230 ml bottle

### **WARRANTY:**

These instruments are 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 6 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.



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