COMMERCIAL DUAL INLINE
TDS MONITOR

Measure the TDS levels of two different water lines, such as the tap water and filtered water, at any time.

The DM-2 is an ideal monitor to know if a filter cartridge, resin cartridge or membrane is functioning effectively. Install the DM-2 so you’ll always know how a water filtration or purification system is performing.

PARTS
- DM-2: Base Unit (LCD Display)
- 2 x 1/4” T-fittings (standard)
- 2 x AA Batteries (pre-installed)
- 2 x SP-3 Shielded Sensors (connected)

Warranty
This product is warranted to the purchaser against material and workmanship for one (1) year from the date of purchase.

What is covered: Repair, parts and labor, or replacement at the Company’s option. Transportation charges for repaired or new product to be returned to the purchaser.

What is not covered: Transportation charges for the defective product to be sent to the Company. Any consequential damages, incidental damages, or incidental expenses, including damages to property. This includes damages from abuse or improper maintenance such as tampering, wear and tear, water damage, or any other physical damage. This product is not waterproof and should not be fully submerged in water. Products with any evidence of such damage will not be repaired nor replaced.

How to obtain warranty performance: Include with the product, your name, address, phone number, description of problem, and proof of date of purchase and return to:
HM Digital, Inc.
ATTN: Returns
5819 Uplander Way
Culver City, CA 90230
U.S.A.

Implied Warranties: Any implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to five years from date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. To the extent any provision of this warranty is prohibited by federal and state law and cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

NOTE: Warranties are product-specific. Third-party products and products deemed by HM Digital as “accessories” are not covered under warranty. Third-party products include, but are not limited to, batteries, fittings and adhesives.

www.hmdigital.com
info@hmdigital.com
Designed in USA and Korea
Made in China
An ISO-9001 Certified Company

Please contact the manufacturer of your water system for recommended TDS levels.

What is TDS?
Total Dissolved Solids (TDS) are the total amount of inorganic elements, including minerals, salts or metals dissolved in water, other than the pure water molecules (H₂O) and suspended solids. A TDS meter works by measuring the total amount of mobile charged ions dissolved in a given volume of water, expressed in total quantity as parts per million (ppm), or in weight as mg/l. TDS is directly related to the purity of water and the quality of water purification systems. TDS affects everything that consumes, lives in, or uses water, whether organic or inorganic, for better or for worse. For people, a lower TDS level in drinking water is typically preferred.

Reverse Osmosis (RO) systems work by filtering the tap water and rejecting the waste water. You can determine your system’s effectiveness by calculating the **HOW TO CALCULATE PERCENT REJECTION**

\[
((\text{Tap TDS} - \text{RO TDS}) \div \text{Tap TDS}) \times 100 = \text{Percent Rejection}
\]

Example: Tap TDS = 352 ppm and RO TDS = 18 ppm. Percent rejection = 94.9%.

Contact the manufacturer of your system to determine minimum percent rejection levels and when to change the filter or membrane.

Useful links for more information
- More information on TDS: http://www.tdsmeter.com/what-is
- RO Percent Rejection Calculator: http://www.tdsmeter.com/what-is?id=0003
6. Where can I get more information on water quality?

5. Can I use the DM-2 to monitor a water softener?

3. Does the DM-2 have an alarm or programmable set point?

2. My TDS levels fluctuate. Is this normal?

1. What should the TDS readings be?

### Specifications

| TDS Range | 0.000 ppm |
| Resolution | 0.001 ppm |
| Conversion Factor | NaCl (avg. of 0.5) |
| Factory Calibration | 342 ppm NaCl (digital calibration) |
| Sensor Cable Length | 46” (116.8 cm) |
| Base Unit Weight | 7.9 oz (224.3 g) |

- **Battery Life:** Approximately 2 years
- **Auto Shut-Off:** After 3 minutes
- **Base Unit Dimensions:** 4 x 2.6 x 0.7 in (11.6 x 6.8 x 1.8 cm)
- **Single Inline TDS Monitor (model SM-1).**

### CARE AND MAINTENANCE

Very little care is necessary for your DM-2.

- Never touch the sensor pins, as skin oils may adversely affect the TDS measurement.
- Avoid removing the fittings, as doing this often may strip the plastic off the sensor and potentially cause a leak.
- If you notice the readings are off from what they should be, replace the batteries or re-calibrate.

- **Avoid removing the fittings from the sensors.** Excessive removal and insertion of the fittings could ultimately scratch the sensor and potentially cause leakage.

### Frequently Asked Questions (FAQs)

1. What should the TDS readings be?
   - **For drinking water and filter performance, the lower the TDS level, the better.** There is never a "right" or "wrong" number. For filter performance, calculate the percent rejection to determine performance levels. Contact the manufacturer of your filter system for recommended levels.

2. My TDS levels fluctuate. Is this normal?
   - Yes. Slight fluctuations are normal from day-to-day. A variety of factors affect the reading.

3. Does the DM-2 have an alarm or programmable set point?
   - **No.** You will need to view the readings. Models QC-1, PM-1, FM-2 and others have alarms.

4. How will I know when the batteries need to be replaced?
   - A low battery indicator, "bat" will appear on the display for 3 seconds when the unit is turned on. If the batteries are low, when the unit is turned on, you will see the "bat" symbol.

5. Can I use the DM-2 to monitor a water softener?
   - **No.** Water softeners do not remove TDS. Models FM-1 or FM-2 are suggested for softeners.

6. Where can I get more information on water quality?
   - **Visit www.hmdigital.com**

### Installation

To install the DM-2 to a water purification or filtration system:

1. Insert the white sensor fully into the bottom of the T-fittings.
2. Orient the sensor pins so that they are perpendicular to the direction of the T. The water should flow over both pins equally. (You should be able to see both pins of you look through the fitting.
3. Disconnect the water source.
4. Snip the source (tap) water tube at a point between the source and the filter. Insert both ends of the tube into the top of the IN line sensor’s T-fitting. See illustration #2. Snip the product (filtered) water tube at a point between the filter and a dispenser. Insert both ends of the tube into the top of the OUT line sensor’s T-fitting. See illustration #2. The DM-2 monitor can be attached anywhere on or near the water system using the mounting bracket (which can be secured by screws or the adhesive tape).
5. Re-calibrate the DM-2 monitor according to your needs, as well as from time-to-time to ensure best results. To calibrate:
   - **Obtain a certified calibration solution that is correct for your needs.** The calibration solution should be NaCl (sodium chloride). HM Digital’s 342 ppm NaCl solution is recommended.
   - **Disregard both T-fittings from their tubes.** Do not disrupt the water source. The DM-2 can also be configured with multiple systems, such as an RO/DI combination, as well as with HM Digital’s Single Inline TDS Monitor (model SM-1). The "IN" reading is higher than the "OUT" reading. The "OUT" reading is the water system after the filter. "IN" is the water entering the filter. Do not move the sensor!

### Troubleshooting

- **Issue:** The water is out of the monitor’s TDS range.
  - **Potential Solution(s):** Re-calibrate the monitor.

- **Issue:** Incorrect readings.
  - **Potential Solution(s):** Re-calibrate the monitor. Change the batteries.

- **Issue:** The "OUT" reading is higher than the "IN" reading.
  - **Potential Solution(s):** Check your connections. The sensors may be reversed.