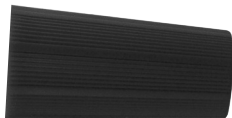# GENERAL®

# DCM7021
*USER'S MANUAL*

# Digital Conductivity Meter

*INTRODUCTION:*
*Thank you for selecting model DCM7021 microprocessor-based waterproof Digital Conductivity Meter. It is used to measure a wide range of Conductivity, TDS, Salinity and Temperature with a replaceable electrode. Please read and follow the manual carefully.*
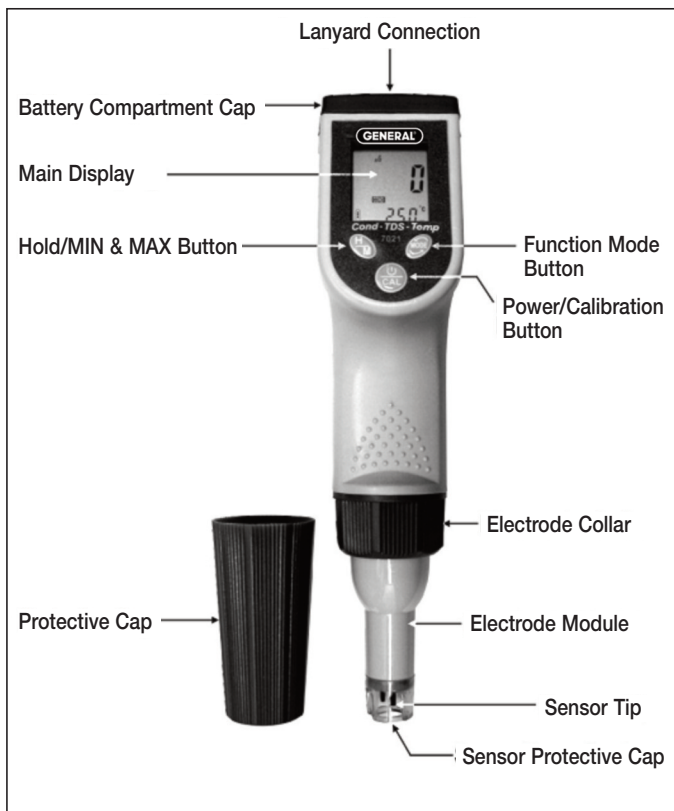
### FEATURES:

- Large LCD displays Temperature along with Conductivity or TDS or Salinity simultaneously
- Waterproof to IP-57 standard
- Automatic Temperature Compensation (ATC)
- Degree °F/°C switchable
- Icon COND , TDS , Salt and unit **S, mS, ppm, ppt, °F, °C** for easy recognition while selecting function modes
- Displays MIN/MAX value and Data hold
- Low battery indicator
- Automatically shuts off after 10 minutes of non-usage
- Easy to replace Conductivity electrode module
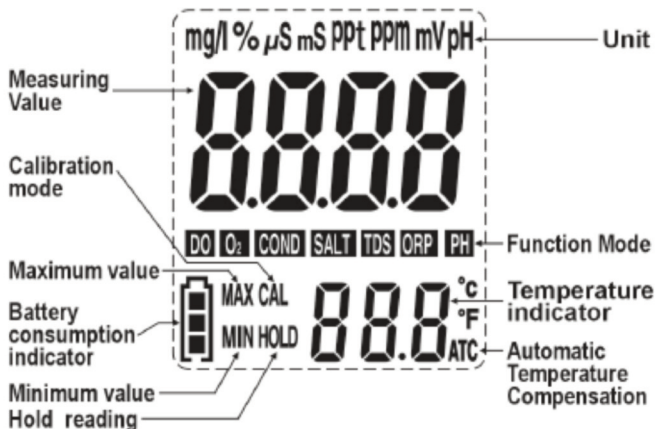- Floats on water

### SPECIFICATIONS:

|  | Conductivity | TDS | Salinity | Temp. |
|---|---|---|---|---|
| Range | 0 to 2000 µS<br>2.00 to 20.00 mS | 0 to 1300 ppm<br>1.30 to 13.00 ppt | 0 to 1000 ppm<br>1.00 to 12.00 ppt | 32° to 194°F<br>(0 to 90°C) |
| Accuracy | ± 2% FS (Cond., TDS, Salt) | | | ±0.4°F + 1 digit<br>(±0.2°C + 1 digit) |
| Resolution | 1µS/0.01 mS | 1 ppm/0.01 ppm | 1 ppm/0.01 ppt | 0.2°F (0.1°C) |
| ATC | 32° to 122°F (0 to 50°C) | | | |
| Calibration | 0 µS, 1413 µS, 12.88 mS | | | |
| Power Source | 4 "AAA" batteries | | | |
| Dimensions | Meter: 7.7" x 1.6" x 1.4" (195 x 40 x 36mm) | | | |
|  | Kit: 9.1" x 8.1" x 2" (230 x 205 x 50mm) | | | |
| Weight | Meter: 4.8 oz (135 g) (with battery) | | | |
|  | Kit: 22.6 oz (640 g) | | | |

*DEVICE DESCRIPTION:*

Lanyard Connection

Battery Compartment Cap

Main Display

Hold/MIN & MAX Button

Function Mode Button

Power/Calibration Button

Electrode Collar

Protective Cap

Electrode Module

Sensor Tip

Sensor Protective Cap

**DISPLAY DESCRIPTION:**



*FUNCTIONS OF KEYBOARD:*

**POWER/CALIBRATION**
1. Press button to switch power On or Off
2. Press and hold button to enter calibration mode

**FUNCTION MODE**
1. Press button to select the desired measurement mode Conductivity, TDS, or Salinity
2. Press and hold button to change degree °F or °C

**HOLD/MIN&MAX**
1. Press button to enter Hold mode
2. Press and hold button to enter Minimum/Maximum mode
   Press button lightly to get Minimum/Maximum value
3. Press and hold button again to exit this mode and return to Measurement mode

### *OPERATING PROCEDURE:*

#### ACCESSORIES

Upon receiving the shipment, inspect the container and equipment for any signs of damage. Verify that you have received all the items listed: Meter, Standard Solution 1413 μS/cm, Battery (installed), Lanyard, Instruction Manual and Carrying Case.

#### PREPARATION

1. Remove the protective cap from the meter. Rinse the electrode with clean water and wipe it dry.
2. Press 🔘 button to turn the meter power on.
   **Note: Don't touch or wipe the surface of inner black sensor of the conductivity cell.**

#### CALIBRATION

Dip the conductivity cell into the standard solution 1413 μS/cm. Stir gently and wait until the display is stabilized. Press and hold 🔘 button to enter calibration mode until the icon **CAL** appears in the display, and flashes 1413 μS/cm. When the display stops flashing and indicates "SA", and then "End" while calibration is ending, it will return to measurement mode.

**Note:** (1) Calibration with a 12.88 mS/cm standard solution would be better for measuring high conductivity solution.
   (2) The icon **COND** will appear automatically during calibration mode.
   (3) "SA" will not appear if the calibration fails.
   (4) If the reading is not 0 μS/cm while the meter is in the air and not dipped into any solution, then calibrate it in the air to make the reading become 0 μS/cm.

#### MEASUREMENT

1. After calibration, rinse the conductivity cell with clean water and wipe it dry. Dip the conductivity cell into sample solution to be measured. Stir gently and wait until a stable reading can be obtained.
2. Press 🔘 button to select the desired measurement mode Conductivity, TDS or Salinity.

**Note:** (1) "_ _ _ _" will appear in the display when it is over the measuring range.
   (2) The unit will auto-range to μS/cm or mS/cm, ppm or ppt.

#### FUNCTIONS MODE

1. Press 🔘 button to enter Hold function mode.
   The icon **HOLD** will appear, and the reading value in the display can be locked.
   Press button again to return to Measurement mode.
2. Press and hold 🔘 button to enter the measuring Maximum and Minimum function mode. Hold button until a flashing icon **MAX** and **MIN** appears in the display. The value of maximum and minimum will appear in the display while pressing the button lightly. To exit this mode, press and hold 🔘 button until icon **MAX** and **MIN** disappears, and returns to Measurement mode.

3. Press [MODE] button to select the desired measurement mode Conductivity, TDS or Salinity.

4. Press and hold [MODE] button to change °F or °C.

**Note:** (1) The display can not auto shut off under the status of MAX/MIN mode.

　　　(2) Change new batteries when the battery indicator flashes.

### *MAINTENANCE:*

BATTERY REPLACEMENT

　　1. Loosen the screw with a screwdriver on the battery compartment cap.

　　2. Replace with fresh 4 "AAA" batteries and note polarity.

　　3. Replace the battery compartment cap and tighten the screw.

　　**Note:** (1) Be sure batteries are in the correct position by polarity.

　　　　(2) Don't loosen the O-ring which has been mounted on cap.

ELECTRODE REPLACEMENT

　　1. Unscrew the electrode collar counterclockwise and remove it completely.

　　2. Pull the electrode module out from the tester.

　　3. Plug a new electrode module into the tester socket carefully.

　　4. Place and tighten the electrode collar to make a good seal.

APPLICATIONS

　　Agriculture • Anti-freeze recycling • Aquarium boiler • Chemical industry • Cooling tower • Drinking water • Fish farming • Food industry • Garden husbandry • Hydroponic Laboratory usage • Plating industry • Swimming pool & Spa • Water treatment

*Calibration*
*Certificate*

*This certificate guarantees that this product has been inspected and tested in accordance with the published specifications.*

*The instrument has been calibrated by using equipment which is already calibrated to standards traceable to International standards.*

Model: DCM7021

Serial no.: _____

Date: _____

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