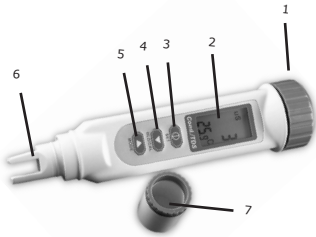


**Waterproof Conductivity / TDS Meter
Models 836-1**

Description

User Interface / Parts

1. Battery compartment
2. LCD Display (pH & Temperature)
3. Set Key (Off / On button)
4. Hold / Calibration Key
5. Mode Key
6. Sensor
7. Sensor Cover (cap)



Overview

836-1 can be used in two ways, auto-ranging and manual ranging and provides 6 units of measurement (μS , mS , ppm , ppt , $^{\circ}\text{C}$, $^{\circ}\text{F}$). This meter has a very high accuracy, provides dual-range measurements with a housing and an electrodes that gives excellent chemical compatibility, durability, reliability and efficiency. CALibrating is just a push of a button and no need for a screw driver!

Features

- * Easy and simple to use, all push-button operation
- * **Auto & Manual Ranging** Capability
- * **IP65 Waterproof** Housing
- * **Dual display** with ATC
- * **Data Hold** to freeze readings

- * **Low Battery** indicator
- * **Auto Power On / Off**, adjustable TDS factor, coefficient factor & Reference Temperature
- * Switchable $^{\circ}\text{C}/^{\circ}\text{F}$ unit

Operation

AUTO-RANGING MODE

Below are the easy steps in using the meter while in auto-ranging mode. Auto-ranging is the default mode when you turn on the meter. The meter will automatically select the most suitable measurement parameter.

1. Remove the cover from the meter to expose the probe out. Press set key to turn the meter on. Wait till the meter's display stabilize.
2. Rinse the probe with distilled water to remove impurities.
3. Immerse the probe into the sample, make sure that the whole probe is under the solution. Stir the probe gently to make sure that no air bubbles are trapped in between the probe.
4. Wait for a about for about 15min then you will see the unit of measurement flashing on screen, this means that the meter is now measuring. The flashing stops when it gets a stable reading.
5. Press hold key to freeze current reading. Press hold key again to release the hold mode.
6. Press the set key to turn the meter off once done measuring.

MANUAL RANGING MODE

You can select from μS , mS , ppm , ppt , $^{\circ}\text{C}$, and $^{\circ}\text{F}$. Below are the easy steps in using the meter in manual ranging mode.

- **Setting Conductivity Unit (switching from μS to mS and vice versa)**
 1. Press set key to turn the meter on. Wait till the meter's display stabilize.
 2. Press mode key for about 2sec to select μS range, "rAn" & "1" text will appear on screen. (see figure 1)
 3. Press mode key for about 2sec again to select mS range, "rAn" & "2" text will appear on screen. (see figure 1)
 4. Press mode key for about 2sec to select auto-ranging, "rAn" & "Ato" text will appear on screen. (see figure 1)

- **Setting TDS Unit (switching from ppm to ppt and vice versa)**
 1. Press set key to turn the meter on. Wait till the meter's display stabilize.
 2. Press mode key for about 2sec to select ppm range, "rAn" & "1" text will appear on screen. (see figure 1)
 3. Press mode key for about 2sec again to select ppt range, "rAn" & "2" text will appear on screen. (see figure 1)
 4. Press mode key for about 2sec to select auto-ranging, "rAn" & "Ato" text will appear on screen. (see figure 1)

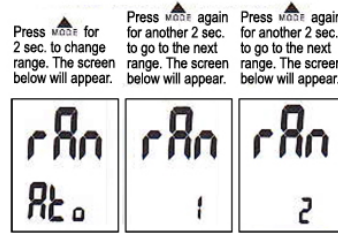


FIGURE 1

- **Setting the Temperature Unit (switching from $^{\circ}\text{C}$ and $^{\circ}\text{F}$ and vice versa)**
 1. Press set key to turn the meter on. Wait till the meter's display stabilize.
 2. Press set key more than 2sec. then press the mode key or hold key until P1.0 appears on screen then press set key shortly.
 3. Press mode key or hold key to select $^{\circ}\text{C}/^{\circ}\text{F}$ then press set key shortly to save temperature settings.

PREPARATION FOR CALIBRATION

We strongly suggest to use the recommended calibration solution below for different conductivity and TDS ranges.

Conductivity Measuring Range	Recommended Calibration Solution Range	TDS measuring range (factor-0.5)	Recommended Calibration Solution Range
0~1999 μS	600~1700 μS	0.00~999ppm	300~850ppm
0~19.99mS	6.00~17.00mS	0.0~9.99ppt	3.00~8.50ppm

Conductivity Calibration

1. Dip the probe into distilled water for about 30min to rinse the probe
2. Pour the calibration solution into 2 separate clean containers, about 3cm in height each.
3. Switch the meter on. Press mode key and select the conductivity measurement mode.
4. Rinse the probe into the first container and gently stir.
5. Dip the rinsed probe into the second container.
6. While immersed on the second container, tap the probe on the bottom of the container to remove air bubbles. Leave the meter immersed in the calibration solution for 15min to let the probe stabilize to the calibration solution temperature.
7. Press hold key longer than 2sec to begin calibration. "CAL" text will flash on screen.
8. Press hold key or mode key to adjust the value in order to match calibration solution.
9. When "CAL" stops flashing and display the calibration value. Press set key shortly to save the calibration. If the "CAL" won't stop flashing even after you have finished the adjustment, please check the calibration solution's value and do step 8 again.
10. Do step 1 to 9 to calibrate with other range if needed.

TDS Calibration

1. Dip the probe into distilled water for about 30min to rinse the probe
2. Pour the calibration solution into 2 separate clean containers, about 3cm in height each.
3. Switch the meter on. Press mode key and select the TDS measurement mode.
4. Rinse the probe into the first container and gently stir.
5. Dip the rinsed probe into the second container.
6. While immersed on the second container, tap the probe on the bottom of the container to remove air bubbles. Leave the meter immersed in the calibration solution for 15min to let the probe stabilize to the calibration solution temperature.
7. Press hold key longer than 2sec to begin calibration. "CAL" text will flash on screen.
8. Press hold key or mode key to adjust the value in order to match calibration solution.
9. When "CAL" stops flashing and display the calibration value. Press set key for less than 1sec to save the calibration. If the "CAL" won't stop flashing even after you have finished the adjustment, please check the calibration solution's value and do step 8 again.
10. Do step 1 to 9 to calibrate with other range if needed.

Reviewing Calibration Information

NOTE: This is only for reviewing the set calibrations purposes and not for calibration.

Press set key then press mode key or hold key until P4.0 appears on screen.

RANGE 1 Calibration Info:

1. Press mode key or hold key until P4.1 appears on screen, the meter will display the last calibration set. If its not yet calibrated "----" will be seen on screen.
2. Press set key to confirm the state. The meter will return to P4.0

RANGE 2 Calibration Info:

1. Press mode key or hold key until P4.1 appears on screen, the meter will display the last calibration set. If its not yet calibrated "----" will be seen on screen.
2. Press set key to confirm the state. The meter will return to P4.0

NORMALIZATION TEMPERATURE SETTING

1. Press mode key or hold key to select 20°C or 25°C then press set key to save the setting.
2. After saving, it will go automatically to Temperature Coefficient Setting or you can press set key about 2sec, to go back to measurement mode.

TEMPERATURE COEFFICIENT SETTING

1. Press mode key or hold key to change the temp. coefficient from 0.0 to 4.0
2. Press set key to save the setting. Then P1.0 will appear. (Press set key about 2sec, to go back to measurement mode)

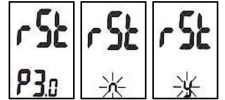
TDS FACTOR SETTING

1. Press mode key or hold key until P2.0 appears on screen
2. Press set key to adjust the setting. Factor will flash on the LCD.
3. Press mode key or hold key to change the factor from 0.0 to 4.0
4. Press set key to save the setting and P2.0 will appear.
5. Press set key about 2sec to go back to measurement mode.

RESET THE METER

Reset the meter option will erase all the set parameters and will automatically restore all the settings set by the factory including calibration information.

1. Press set key to enter setup mode.
2. Press mode key or hold key until P3.0 appears on screen.
3. Press mode key or hold key to select "Y" or "N" then press set key to confirm the changes.
4. Press set key again to go back to measurement mode.



Specifications

- * Measuring Range
Conductivity: 0~1999 μS , 0~19.99 mS
TDS: 0~1999 ppm , 0~19.99 ppt
- * Resolution: 1 μS / 1ppm or 0.01 mS / 0.01ppt
- * Accuracy: $\pm 1\%$ Full Scale + 1 digit
- * Calibration standard range: (0.2~1)" full scale
- * Operating temperature: $0\text{--}50^{\circ}\text{C}$ ($32\text{--}122^{\circ}\text{F}$)
- * Automatic Temperature Compensation (ATC): $0\text{--}50^{\circ}\text{C}$
- * TDS Factor: 0.4~1.00
- * Temperature coefficient: $0\text{--}4.0\%$ per $^{\circ}\text{C}$
- * Normalization temperature: 20°C or 25°C
- * Power requirements: 4 x 1.5V batteries (Type A76 or LR44)
- * Calibration: 2 point (Calibration range is $\pm 40\%$ of factory default parameter)
- * Auto power off
- * Hold data
- * Unit $^{\circ}\text{C}/^{\circ}\text{F}$ switchable
- * Battery Life: >80 hrs continuous use
- * Dimension (H x W x T): 165 x 35 x 32mm

Accessories included:

- FREE 4pcs LR44 Button Battery
- Operation Manual

Warranty

GAIN EXPRESS HOLDINGS LTD. warrants this instrument to be free of defects in parts and workmanship for one year from the date of shipment (six months limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact our Customer Service Department at gary@gainexpress.com. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Gain Express specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Gain Express' total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

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