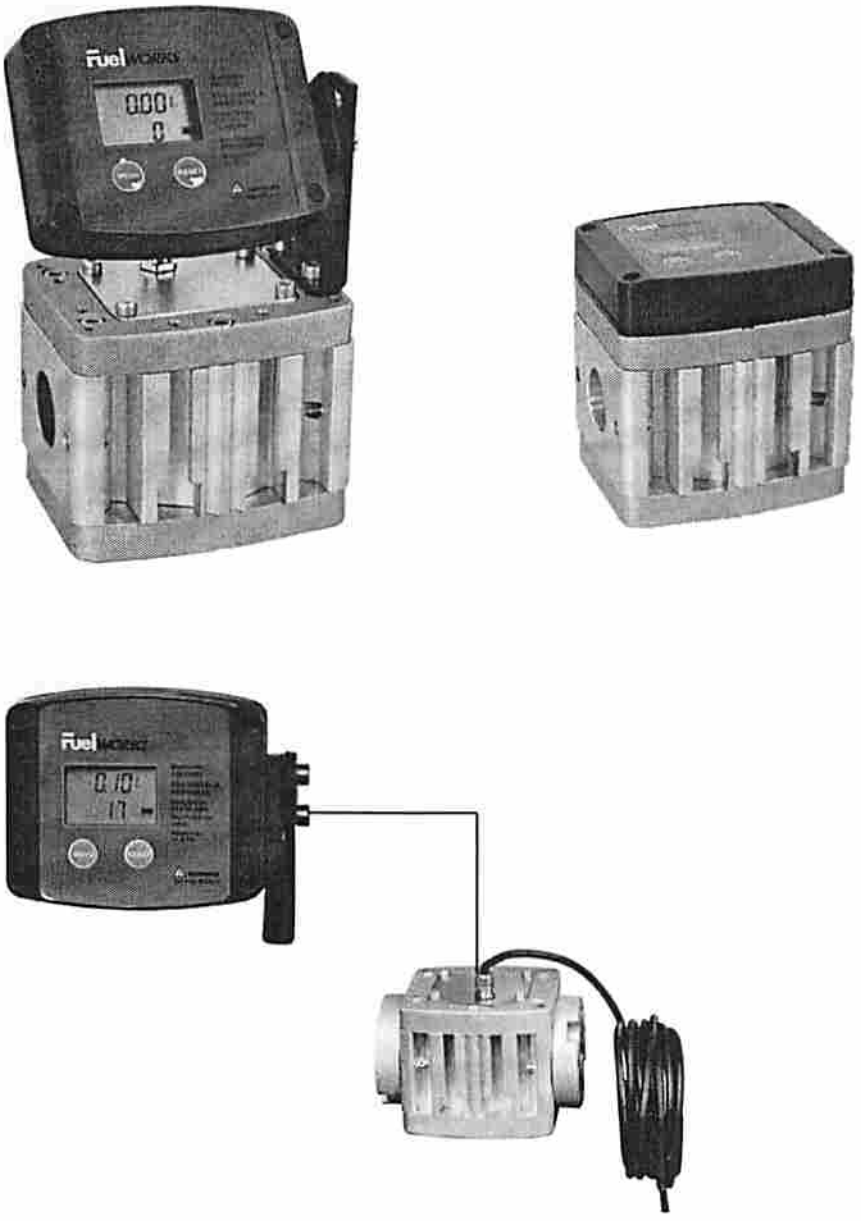
Asc #
86579

Digital Meter

User's Manual



⚠ WARNING: Read carefully and understand all INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Model No. 15211501, 15211502, 15211503

A. Technical Details

The digital meter designed by accurate measuring chamber and oval gears inside. Aluminum body, LCD screen make it easy, portable & reliable to install.

The meter can be used for measuring diesel & kerosene, NOT FOR GASOLINE!

Flow rate	15~150L/min. 4~40G/min
Operating pressure (Max)	30bar 435psi
Operating temperature	-10℃ ~ +50℃ 14℉ ~ 122℉
Accuracy	±0.5%
Fluid type	Diesel & kerosene
Screen	5-Digit present total(0.01~999.99)
	5-Digit non-resettable total(1~99999)
	Unit (Liter, Gallon, Pint, Quart)
Weight	2.8 Kg/6.2 lbs
Power supply	2×1.5V (2×AA)

B. Safety Precautions

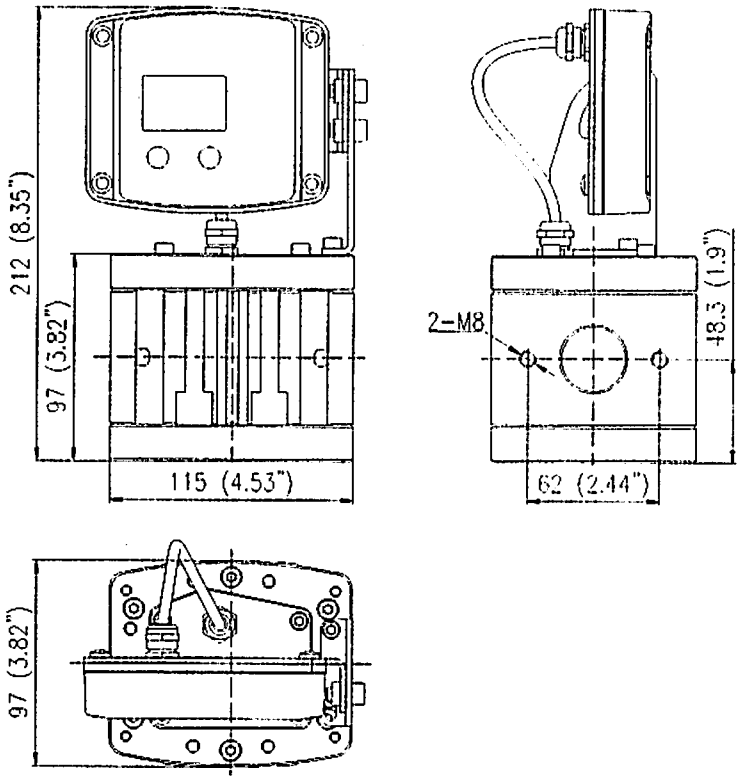
- **Never install them where inflammable!**
- **Keep the fluid pure is very important.**
- **Not for measuring gasoline!**
- **Make sure that no air pressure shocks or particles can damage the meter.**

C. Installation

Open the package, take out the bracket (No. 12), Hexagon ScrewM5X10 (NO. 15), Hexagon Screw M6X12 (No. 11), 2pcs each. Install them as following Fig. 1.

The digital meter installed by flange joint in the pipeline. It is suggested to clean the filter mesh inside periodically. That will prolong the life of the meter.

Model No. 15211501, 15211503



Model No. 15211502

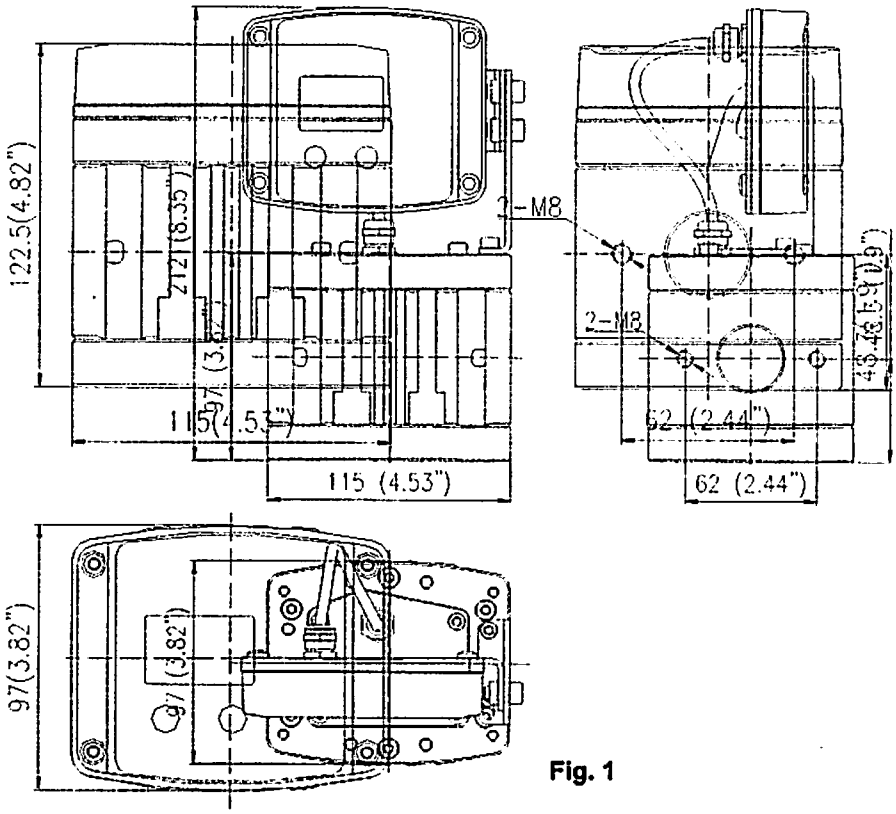


Fig. 1

D. Operation

1. Function Button Introduction

① LCD display
② "RESET" button
③ "MENU" button

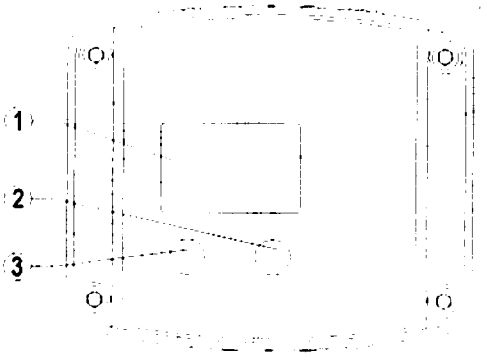


Fig. 2

2. LCD display

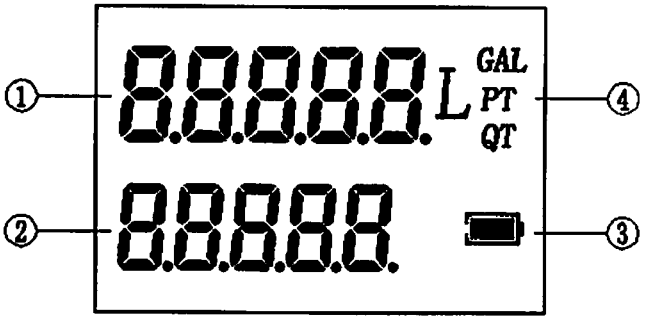


Fig. 3

① Present total (5-digit with floating point from 0.01 to 999.99)
General total (cannot be reset, 5-digit with floating point from 1 to 99999)
② Resettable total (5-digit with floating point from 1 to 99999)
③ Low battery indicator
④ Measurement unit (L, GAL, PT, QT)

3. Operation Instruction

3.1 Before putting into operation

- Check the technical data of the installation match with those of the meter. For example, connection, pressure, flow rate range, medium, etc.
- Make sure the correction factor is right, or set the proper correction factor (refer to 3.2 for correct factor).
- Check all connections to avoid leakage.

3.2 Button usage, calibration and measurement unit change

- Reset the present total (See Fig. 4)
  1) When the meter is on standby, press the RESET key.
  2) The display shows all the segments.
  3) The meter resets the present total already.

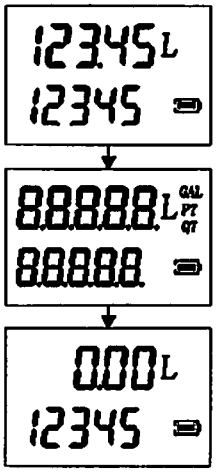


Fig. 4

- Reset the resettable total **(See Fig. 5)**
  1) When the meter is on standby, press the RESET key to reset the present total first, then press the MENU key, keep it pressed. During this period, the screen will changed 3 times, please keep it as the final one, the resettable total changes to 0。
  2) The meter resets the resettable total already.

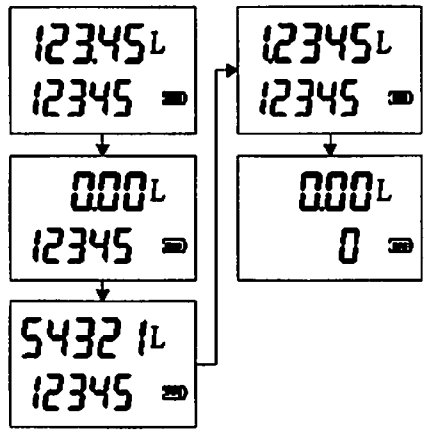


Fig. 5

- Show current correction factor **(See Fig. 6)**
  Wait for the meter to go to standby, press the MOVE and RESET keys together. Keep these pressed, LCD shows the current correction factor in ① zone.

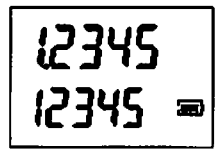


Fig. 6

- Show the general total **(See Fig. 7)**
  Wait for the meter to go to standby, press the MENU key, keep it pressed, the display shows the general total in ① zone.

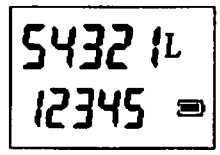


Fig. 7

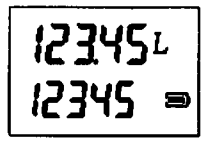
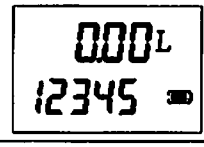
- Calibration and change unit
  1) Directly input the correction factor
  If the meter shows a mean percentage error, this can be corrected by input proper correction factor, it must be calculated by the following formula.

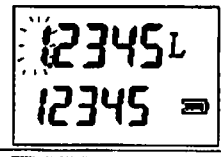
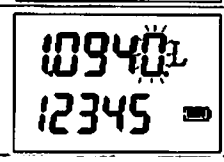
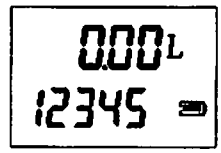
proper correction factor = current correction factor×(actual value/ display value)

Example:

Actual value	**20.75**
Display value	**18.96**
Current correction factor	**1.000**
Proper correction factor	**1.000×(20.75/18.96)=1.000×1.094=1.094**

Steps for entering the Calibration factor

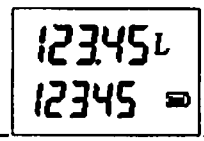
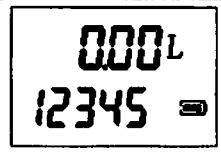
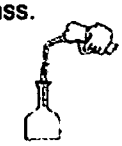
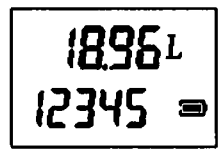
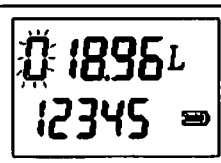
1	Wait for the meter to go to standby.	
2	Reset the resettable total.	

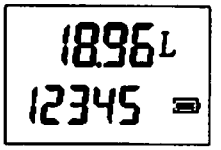
3	Press the MENU key, keep it pressed until as the right figure showed, the digit flash in ① zone, it means the meter is in correction factor modification mode.	
4	Press the RESET key to choose the right digit from 0 to 9. Press the MENU key to start the next digit. So the digit of correction factor can be changed one by one.	
5	Make sure the correction factor is right, press the MENU key, keep it pressed until quit calibration mode, the factor is saved. The meter goes to standby again.	

2) Modify the correction factor in field

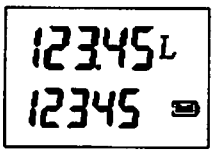
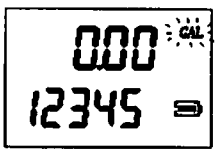
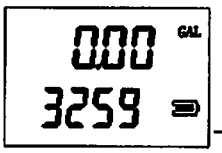
Please carefully follow the procedure indicated below.

In-field calibration procedure

1	Wait for the meter to go to standby.	
2	Reset the resettable total.	
3	Start dispensing into a measuring glass.  Stop dispensing when the volume reached over 5 Litre, read out the actual value. The volume which displayed on LCD is display value. For example in the right figure, display value is 18.96, actual value is 20.75 	
4	Press the MENU key, keep it pressed until showed as the right fig., the digit flash in ① zone, Press the RESET key to choose the right digit from 0 to 9. Press the MENU key to start the next digit. So the actual value can be input.	

5	Make sure the correction factor is right, press the MENU key, keep it pressed until quit calibration mode, the factor is saved. The meter goes to standby again.	

3) Changing measurement unit

1	Wait for the meter to go to standby.	
2	Press the MENU key, then press the RESET key, keep both pressed until showed as the right figure, the digit flash in ④ zone. Press the RESET key to select the desired measurement unit, it can switch among four types of units, L, GAL, PT and QT.	
3	Press the MENU key, keep it pressed until quit this mode, and the new measurement unit is saved. The meter goes to standby again, and it will be ready to work in the new measurement unit.	

E. Maintenance

Battery replacement

1. MODEL #15211501, #15211503

- When the battery signal is flashing on the LCD (See Fig. 8), it means the meter is in low battery. In this condition, the meter continues to work correctly, but the flashing icon warns the user that it is advisable to change the battery.

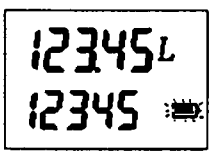


Fig. 8

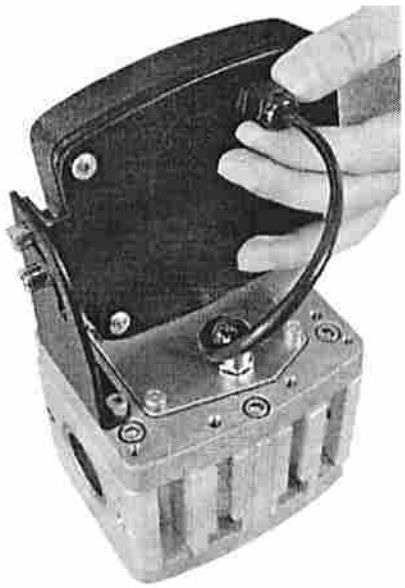
Step 1 Loosen the plastic collet of the power cord (No. 6),

Step 2 Screw down the self tapping screws (No. 8) on the back cover (No. 9).

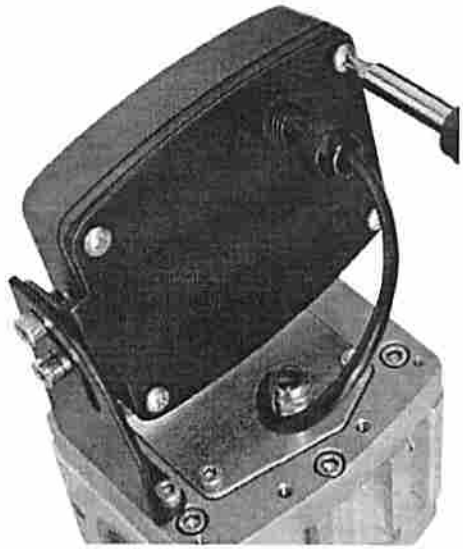
Step 3 Remove the back cover (No. 9), replace the battery.

Then install the back cover, tighten the screws and screw on the collet of the power cord.

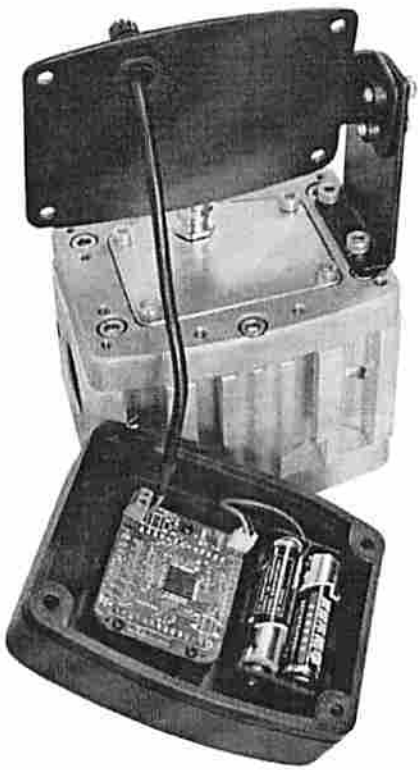
Step 1



Step 2



Step 3

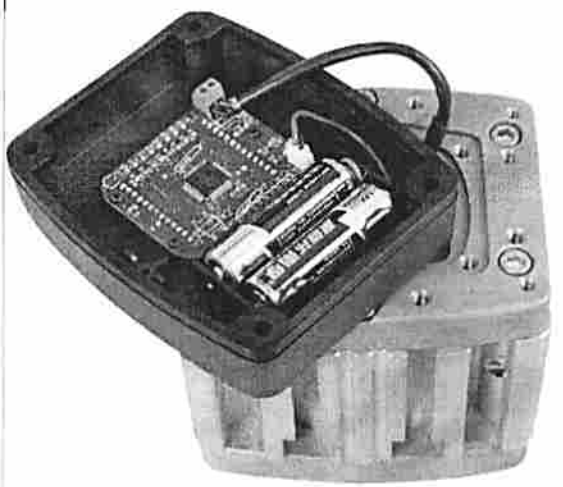


- Battery type: 2×1.5 V (2×AA)

2. MODEL #15211502

- When the battery signal is flashing on the LCD (See Fig. 9), it means the meter is in low battery. In this condition, the meter continues to work correctly, but the flashing icon warns the user that it is advisable to change the battery. **Fig. 9**

Step 1 Screw down the Hexagon screws on the plastic housing (No. 3)
Step 2 Remove the plastic housing (No. 3), replace the battery.
Then install the plastic housing, tighten the screws.

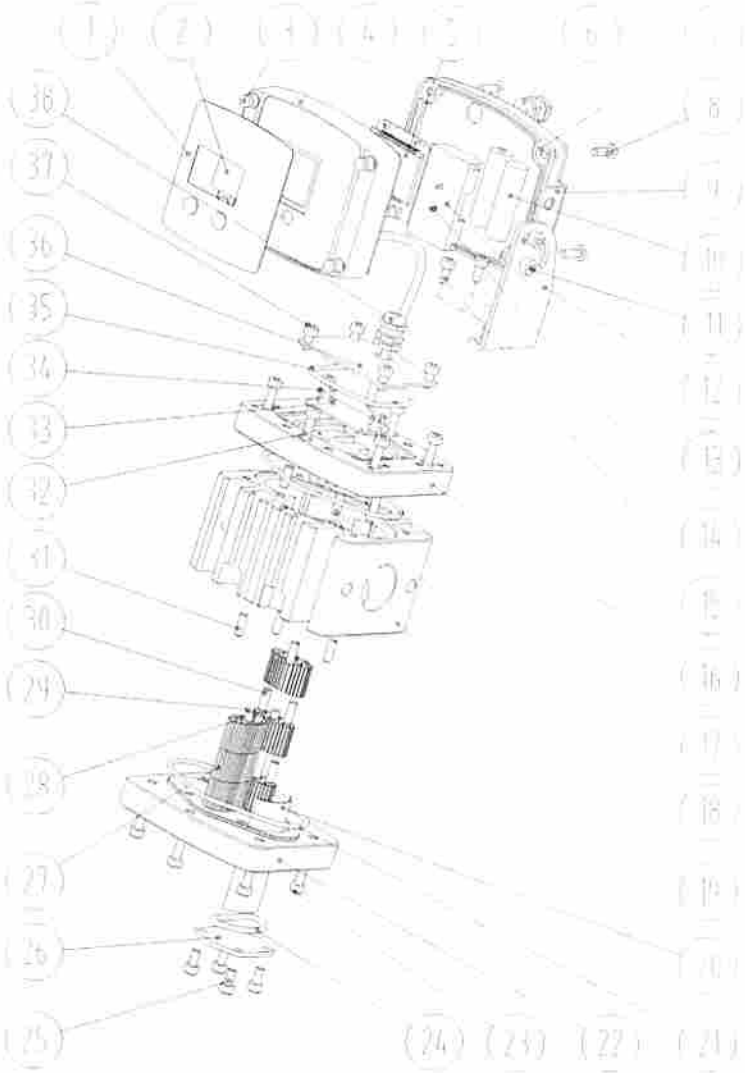
Step 1	Step 2
	

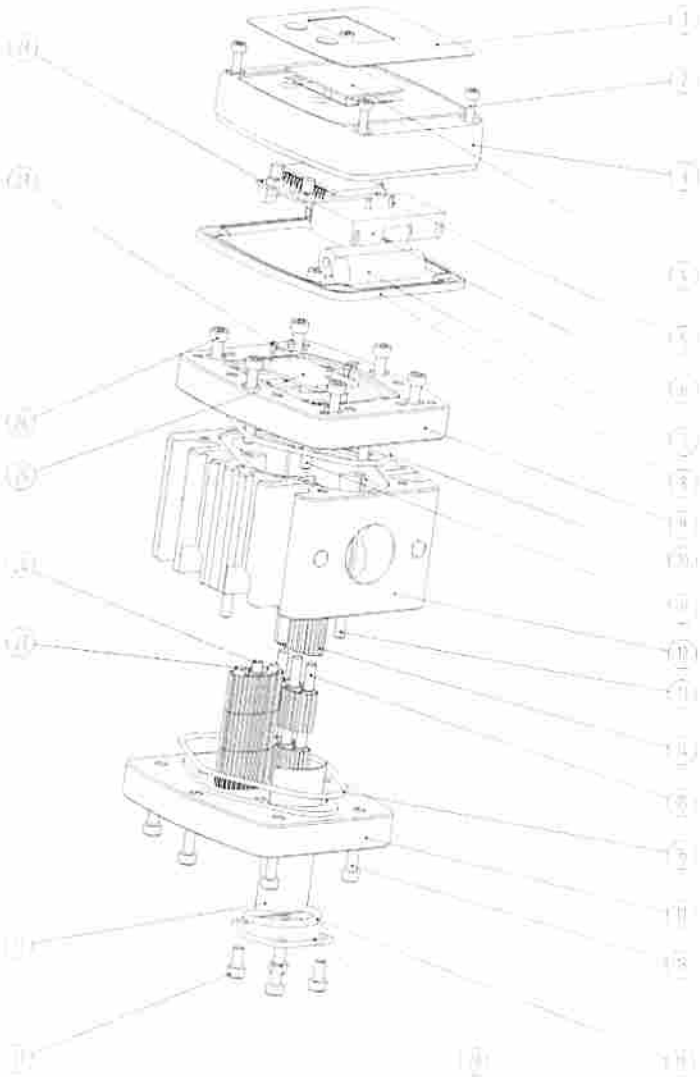
- Battery type: 2×1.5V (2 x AA)

F. Diagram and Parts list

1. MODEL #15211501, #15211503

No.	Description	No.	Description	No.	Description
1	Label	14	Self tapping screw	27	Oval gear
2	Protection board for LCD Display	15	Hexagon screw	28	Magnet
3	Rubber Stopple	16	Upper cover	29	Shaft
4	Plastic housing	17	O ring	30	Pin
5	Circuit board	18	Pin	31	Pin
6	Plastic Collet for power cord	19	Meter body	32	Hexagon screw
7	Rubber ring	20	Filter mesh	33	Reed Switches board
8	Self tapping screw	21	O ring	34	Self tapping screw
9	Back Cover	22	Lower cover	35	O ring
10	Battery	23	Hexagon screw	36	Cover for circuit board
11	Hexagon Screw	24	O ring	37	Self tapping screw
12	Bracket	25	Hexagon screw	38	Metal Collet for power cord
13	Battery holder	26	Fix board for the filter mesh		



2. MODEL #15211502

No.	Description	No.	Description	No.	Description
1	Label	11	Pin	21	Hexagon Screw
2	Hexagon screw	12	Meter Body	22	Filter mesh
3	Plastic Housing	13	Pin	23	Magnet
4	Protection board for LCD Display	14	Oval Gear	24	Shaft
5	Self tapping screw	15	Pin	25	Reed Switches board
6	Battery holder	16	O ring	26	Hexagon Screw
7	Battery	17	Lower cover	27	Self tapping screw
8	Rubber Ring	18	Hexagon screw	28	LCD circuit board
9	Upper cover	19	O ring		
10	O ring	20	Fix board for the filter mesh