KP Electronic Systems, Ltd.

WER2

User Manual

Revision History:

Rev.	Date	Description	Reason of change	Affect Paragraph/ Documents	Initiator
0.1		Initial release			Efi Rushinek
0.2	28/4/2019	Adding FCC warning about safe distance			Efi Rushinek

Contents

1. General:

The WER2 is used a water meter register that includes a magnet accelerator countin, LCD displpay, sensors e.g. tilt and RF modem which holds the RF communication between he RMR and the metering devices. The interface with the PC is done through wireless 2.4GHz short range communication. The WERE2 radio is high power 1W UHF radio covers the 430 to 470MHz RF band. The WER2 is power from 2 AA bateris which are connected in serial.

2. Radio Specification:

a. General

- Battery voltage   Internal 3.4 v …….. battery.
- Operating temp.   -30 C°+50 C°
- Weight   ……. mg
- Housing material   Metal, glass, PVC
- Mechanical dimension at paragraph 13

b. UHF

- Rx/Tx Frequency bands:
- UHF Freq range………………………430-470.275MHz
- Tx Pout……………………….…… 1W+/-10%
- Rx sensitivity……………………… -117 dB
- Selectivity…………………….….. -40dBc
- Supply voltage……………………... 3.4v typical. Min/max = 3.0/3.6Vdc
- RF data rate …………..………….…… 2.4K / 4.8K / at 6.25 Sp.Channel channels.
- GUP data rate ………………………..9.6Kbps
- RF freq set by GUP.
- Tx current……………………………670 ma
- Rx current……………………………. 22 mA Peak **Current**in.

3. LCD Display

The LCD (Lquid Crictal Disply) is special & customized FSTN/TN low power LCD. The LCD includes 11 numbers fo meter consumption, and severak icons which show the neter stsus aws it is shown in the next picture.
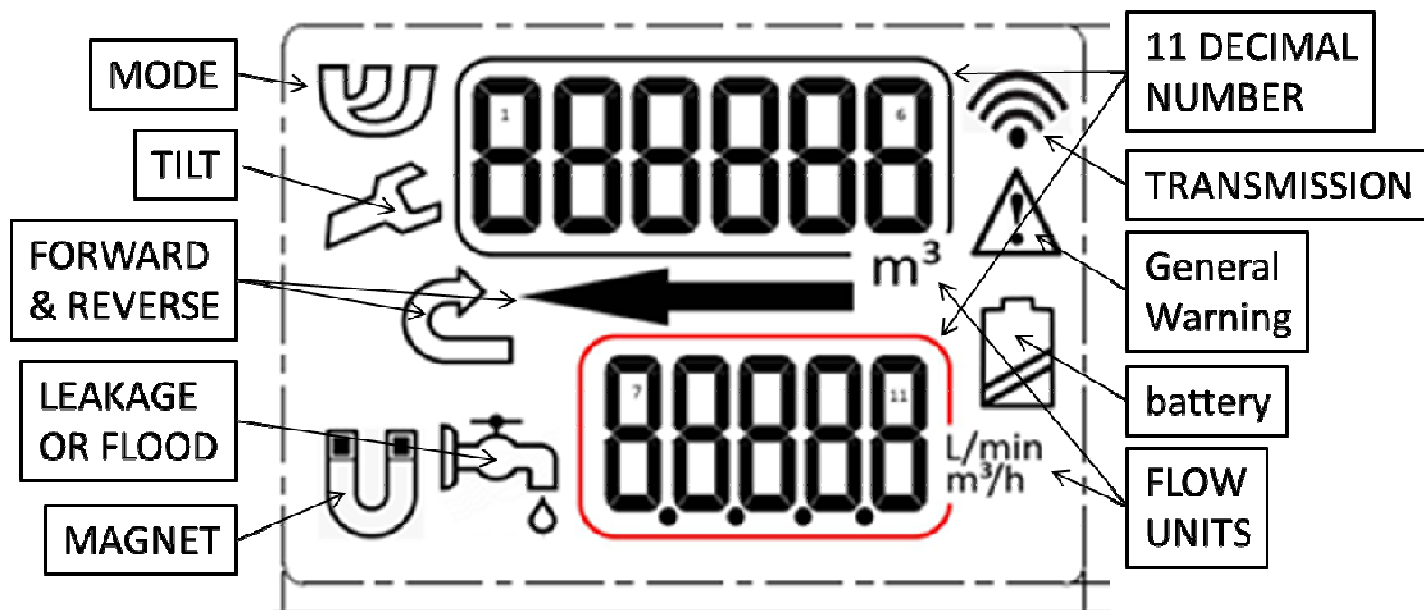

4. Parameter setting

The parmater setting is available in wireless connection (2.4GHz short range). A special 2.4GHz adaptor (KP propriety) should be used together with a special SW utility / application the "GUP" (rans on windows). The WER2 is usally in sleep mode (lowest current consumption mode). A magnet swift is required to wake up the CPU. Once the CPU wakes up then the CPU is looking for 2.4GHz special prompt. After the GUP identifies the device ID and this ID was

accepted by the user then the RF radio link is established. The WER2 upload all the unit parametrs (see next chepters). The user can changed and dowenlods the new parameters.

a. General Setting

The General Setting includes the power modes: Power On and Flight Mode. The Flight mode is for transportation or storage for long periode of time. The Flight Mode keeps the unit in the lowest level of current consumer. In Flight mode the LCD is off as well as other periphrial like radio, sensors.
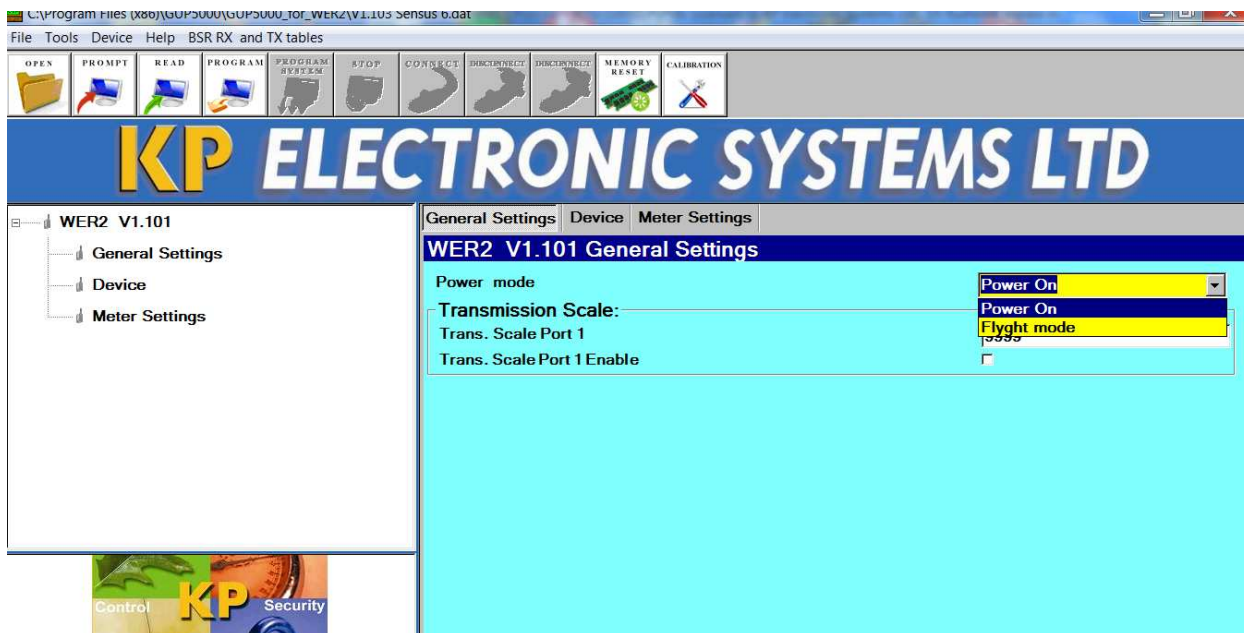

b. Drvice Parameters:

Drvice Parameters includes the radio long range parmeter i.e. the Tx and Rx radio frequencies (currently the Tx and Rx freq should be the same. The device ID e.g. 40000.   The number of wards in burst repeatitions – it incread the communication reliability..

c. Meter Setting

Meter Setting parametrs includes: The Meter Value - it is the current water consumption figure. The meter Factor which is defined for each type of meter (there are 4 paramters for each flow rate). Ther Factor is the pulse/liter parameters. The Type parameter defines on of many meters.
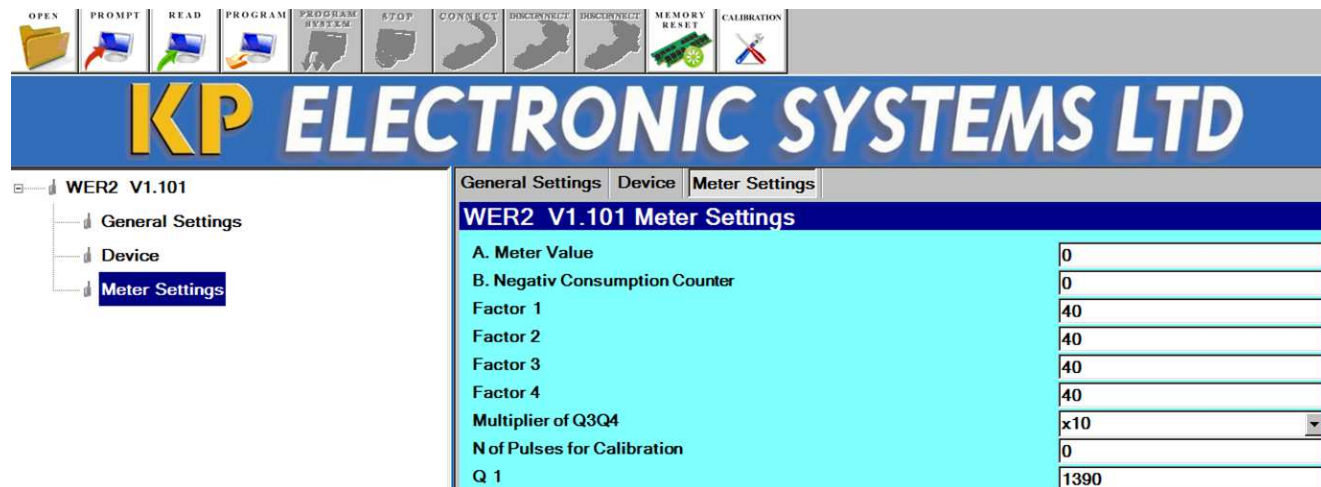
5. Unit disassembly
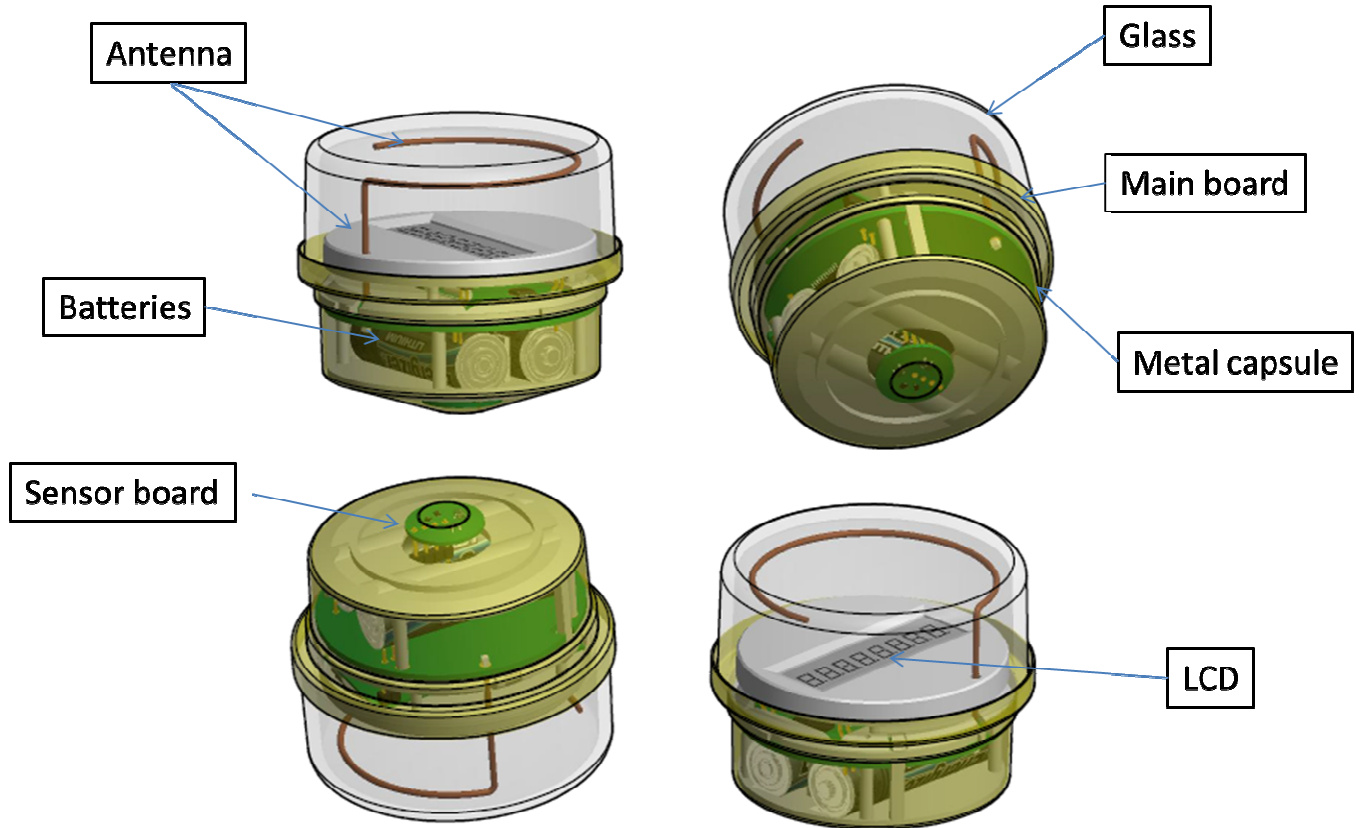
6. Warning Statements

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THE DEVICE COMPLIES WITH THE MINIMUM PERMISSIBLE EXPOSURE (MPE) LIMITS REFERENCED IN 47 CFR 1.1310 Table 1. THE MINIMUM SAFE OPERATING DISTANCE OF 20CM MUST BE OBSERVED FOR HE GENERAL PABLIC.

NOTE: THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.