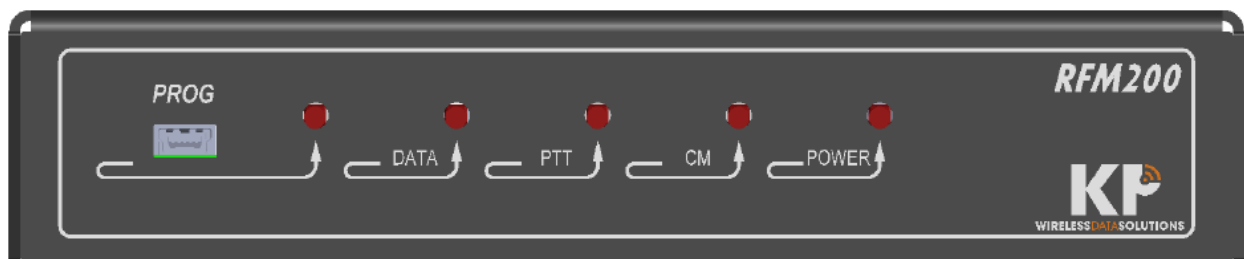


# KP Electronic Systems, Ltd.

## RFM200 User Manual



**Revision History:**

Rev.	Date	Description	Reason of change	Affect Paragraph/ Documents	Initiator
0.1		Initial release			Efi

**Contents**

1. General:..... 3

2. Radio Specification:..... 4

3. Power Supply: ..... 5

4. LED indication: ..... 6

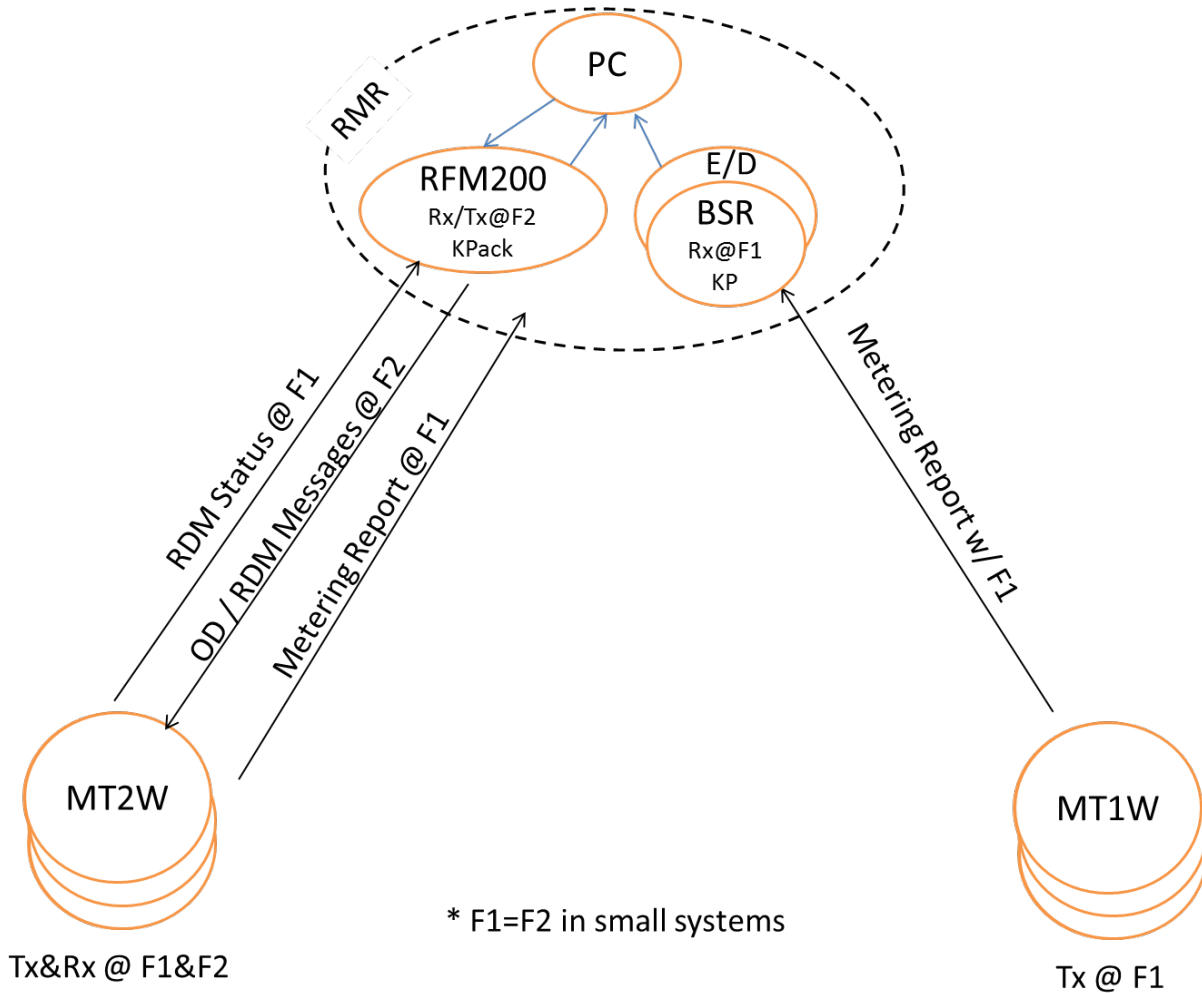
5. Radio RF calibration: ..... 6

6. Parameter Setting by GUP: ..... 6

7. Mechanical Description and Dimension: ..... 8

## **1. General:**

The RFM200 is used as RF modem which holds the RF communication between the RMR and the metering devices. The interface with the PC is done through USB Type B for data exchange and Mini Type B for parameter setting. The RFM radio is high power 5W VHF radio covers the 150 to 174MHz RF band. The RFM200 is powered from 12.5V power supply that is backed up with a Li-Ion 12V battery.



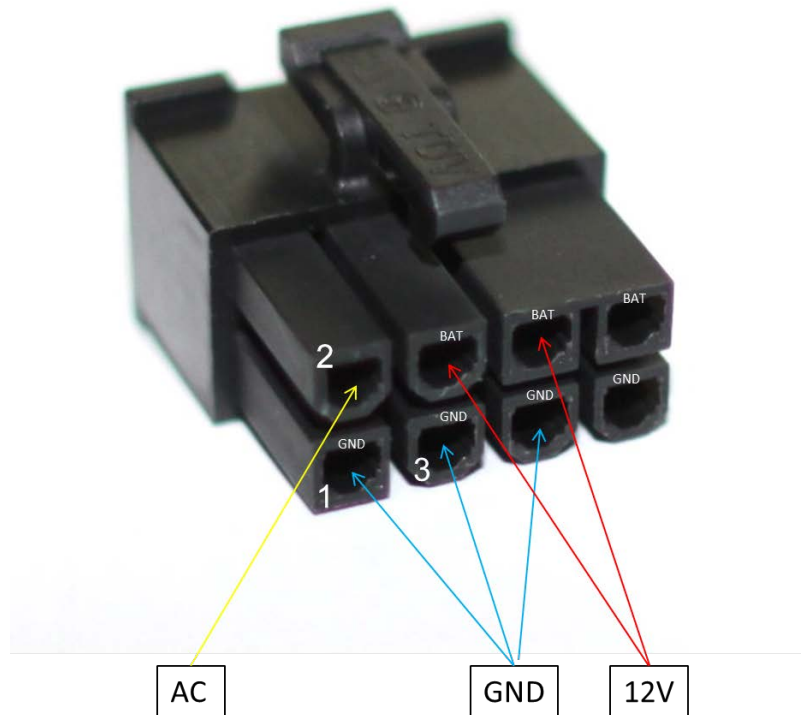
## 2. Radio Specification:

- Supply voltage..... 12.5v typical. Min/max = 10/15Vdc
- Low battery indication..... 9.5V
- RF data rate ..... 4.8Kbps at 6.25 channels.
- GUP data rate .....9.6Kbps

- PC data rate.....38.4Kbps for data and 9.6Kbps for parameter setting
- RF freq set by GUP.....150 to 174MHz.
- Radio power.....5W
- Tx current.....1.5 amper

### 3. Power Supply:

The external power supply is through 8 pin connector (KP P/N CON147). The external cable is KP P/N CAB222. The external connector pin type is showed in the next image:



## **4. LED indication:**

The POWER LED indicates that the power is fed from external power supply.

The CM LED indicates that the RF channel is busy when a signal above -107dBm is detected.

The PTT LED is turn on whenever the radio transmits (RF).

The DATA LED indicates when data is exchanged between the PC and the RFM200.

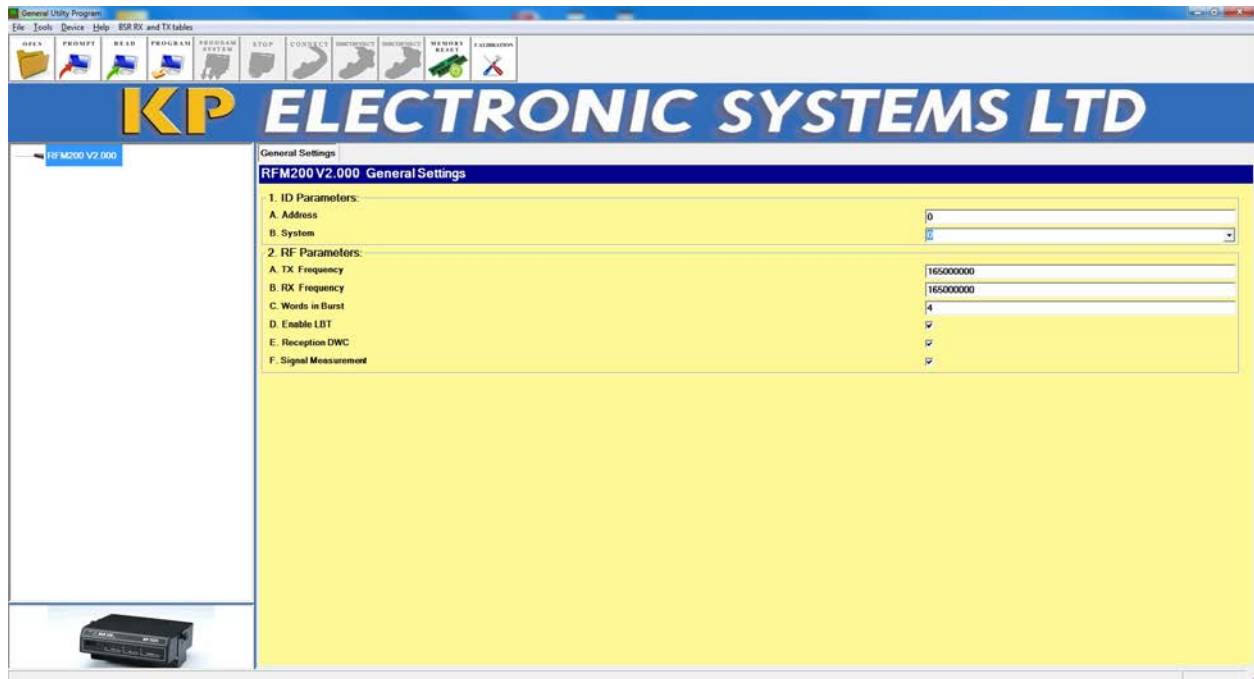
The PROG LED indicated that parameters are transmitted between the PC and the RFM200.

## **5. Radio RF calibration:**

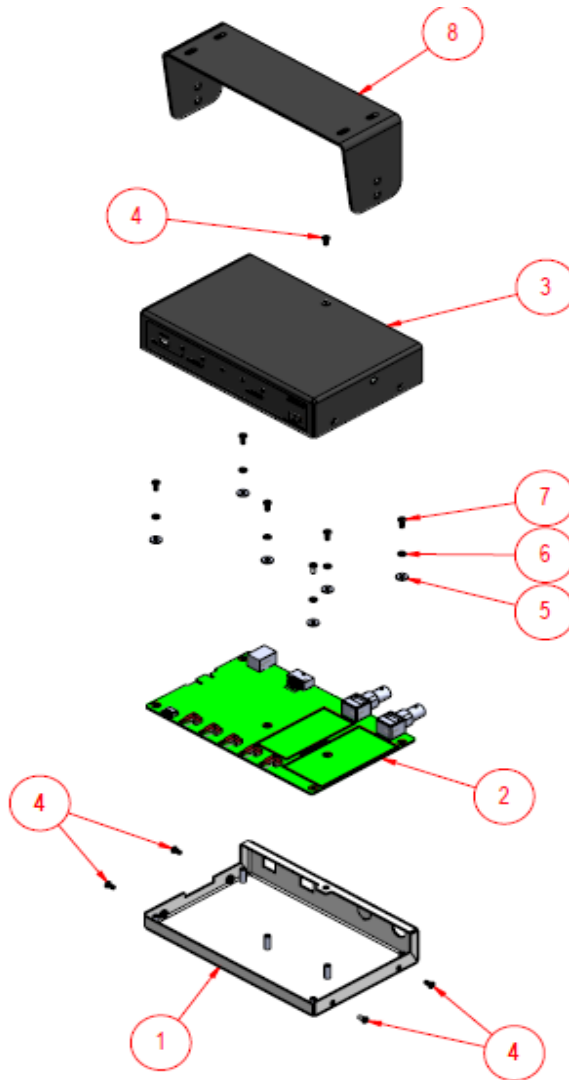
The radio power and radio deviation are fixed and can't be changed. The frequency is based on TCXO 32.000MHz that has maximum 1ppm temperature stability. The procedure of frequency calibration is by try and error loop i.e. measuring the RFM200 carrier transition frequency error, setting the freq offset and measure the frequency again until the frequency error is less than 0.5ppm.

## **6. Parameter Setting by GUP:**

The frequency is set by the GUP PC application through the front panel micro USB connector.



## 7. Mechanical Description and Dimension:



ITEM NO.	PartNo	DESCRIPTION	Show all/QTY.
1	MET300	Bottom Of RFM200	1
2	PCB RFM200	PCB RFM200	1
3	MET301	Cover of RFM200	1
4	SCR033	Phillips Steel Machine Flat Head 100° Screw #4-40 x 1/4" Zinc Plated	5
5	LWA003	Steel Machine Screw Washer No4 Zinc Plated	6
6	67984A 32	Lock washer A4, DIN 6798 Typ A 3,2x6x0,4	6
7	SCR003	Phillips Steel Machine Pan Head Screw #4-40 x 1/4" Zinc Plated	6
8	MET213	Bracket	1