Description of the M-Bus:

The M-Bus is a two wire bus with the master signaling a Mark '1' with a nominal voltage of 36VDC and a Space '0' that is: Mark – 12VDC = 24VDC.

When no communication is taking place the voltage must be above to 30V also at the end of the bus furthest away from the Master. If communication is active a Voltmeter will show values fluctuating between Mark and Space. The Mark voltage can be up to 42V and down to 30V if equipment other than the BAS920COMM Module is used, the space is always 12V lower. The slaves signal by varying the current on the bus, 1.5mA is Mark, 11-20mA is Space.

The bus cannot be longer than 300m. If longer a repeater must be used. No more than 15 slaves can be attached pr. segment.

Setting up the M-Bus:

- Make sure all connections are polarized correctly (- to - and + to +)
- The bus topology should be like a RS485 bus (Pearls on a string)
- The baudrate used is always 2400,e,8,1

Checking and Error finding:

- The BAS920 and the BAS920MM must both be powered
- When the bus is powered the Mark voltage should be close to the Mark voltage in both ends of the bus.
- Using the terminal interface of the BAS920 the following commands can issued:
- *master mbus search primary* – searches for all primary address (1..250) and displays them if found
- *master mbus search secondary* – searches for all secondary addresses and displays them if found
- To find out the capabilities of a slave enter *master mbus stat <address>* where address can be either the secondary or primary address
- If a third party program is to be used the RJ11 port can be used for this. But you must enter this command before using program *master mbus disable* and this after using the program *master mbus enable*. This is done to make sure that the BAS920 isn't interfering trying to send commands itself. If the *enable* command is forgotten mbus communication will not start until after a reset of the BAS920. You can use *master mbus stat* to check the state of the enable/disable.
- Some slaves needs to kick-started/configured by external programs before they can be found on the bus. Also some slaves that only have a primary address might be set to address 0 and a tool, most likely from the manufacturer, must be used to set the address before the BAS920 can find/use the slave.
- If unsure that all slaves have been found/slave defective you can try to use a third party program like MB-Sheet