UPS_PIco_V1.0_10_11_2015_code_0x53.hex recent changes

The new features implemented here are the following:

1. *System automatically recognizes the hardware and bootloader versions*

2. *Full tracking of Raspberry Pi shutdown and Reboot has been strongly improved (again)*
   *If system is shutdown with command line **sudo halt or sudo poweroff or sudo reboot,*** the system (PIco + RPi) can be started by enter or re-enter the cable or by pressing the FSSD button. The Gold Plated Reset Pin need to be installed

3. *Problem with I2C RPi Clock Stretching has been definitely solved on our (PIco) side, so no longer bad readings from the I2C occurs*

4. *Some problems with deep battery discharge has been corrected, and allows now to recover all of batteries that has been deep discharged*

5. *The TO-92 sensor need to be activated first if soldered. Default the TO-92 sensor is deactivated*
   Activation/De activation is done by writing to the 0x6b 0x00 register a proper value

   ***Write: 0x10** – deactivate the TO-92 temperature sensor (default value)*

   ***Write: 0x11** – activate the TO-92 temperature sensor. The TO-92 sensor must be activated if installed (soldered) prior to be used. It is not recommended to activate the sensor if it is not soldered, as it can cause non proper working of the system.*

   Examples:

   ***sudo i2cset -y 1 0x6b 0x00 0x10** deactivate the TO-92 sensor*

sudo i2cset -y 1 0x6b 0x00 0x11 *activate the TO-92 sensor*

Each writing to this register store the value in the internal PIco EEPROM, and after that restarts the PIco, so not possible to do it when battery powered

6. *Similar to the activation and deactivation of the TO-92 sensor mechanism has been implemented for the RS232 PIco interface.*

   Now, the RS232 interface of the PIco is deactivated (default value), and even if jumpers are connected, it is floating, so user can use his own hardware on top, without removing the jumpers.

   When bootloader is requested, the RS232 is automatic activated only for firmware uploading. Therefore is user like to upload the firmware remotely can use it as before, however now can have on the top his own hardware (i.e. GPS). Te GPS during the firmware uploading procedure need to be disabled by user responsibility and enabled just after.

   If user like to use the @commands, then need to activate the RS232 on the UPS PIco.

   Activation/De activation is done by writing to the 0x6b 0x00 register a proper value

   <u>Examples:</u>

   sudo i2cset -y 1 0x6b 0x00 0xb0 *deactivate the RS232 interface*
   sudo i2cset -y 1 0x6b 0x00 0xb1 *activate the RS232 interface*

   Each writing to this register store the value in the internal PIco EEPROM, and after that restarts the PIco, so not possible to do it when battery powered

7. *Problem with some PIco where when battery level was lower than 3V7 I2C errors occurs has been solved*