

4.2 Turn on procedure of PIC firmware

If the power mode of the ARK-1388V is set as general purpose IPC mode, the system will turn on when the power button pushed and power input is alive. When the power mode of the ARK-1388V is set as in-vehicle mode, the turn on and turn off procedure will be controlled by PIC firmware. The turn on procedure of PIC firmware is shown in Fig 4.2. Firstly, the PIC firmware will check the voltage level of the input battery power automatically. Then it will check the battery status. The battery status is normal if the input voltage is higher than 11V in 12V system or 22V in 24V system. Next, the IGN status is determined by the voltage level of ignition signal which is located at the third pin of power connector. If the voltage of IGN is higher than 8V, the IGN status is high. The system will be turned on after 10 seconds, named turn-on delay, if the IGN status is higher.

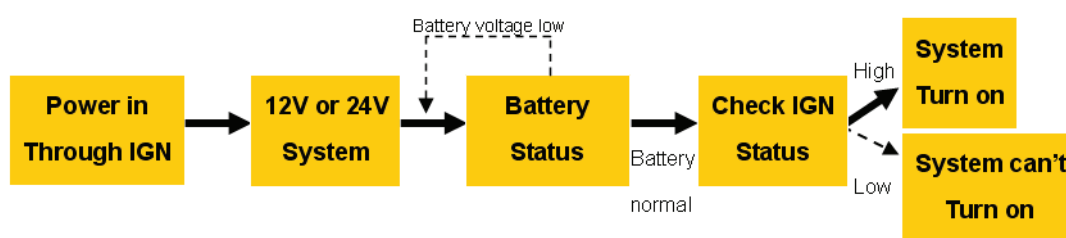


Figure 4.2 Turn on procedure of PIC firmware

4.3 Turn off procedure of PIC firmware

ARK-1388V will start to turn off if the IGN signal goes lower than 8V. Then the system will turn off after a time period named off delay. The off delay time is used for an in-vehicle device, ARK-1388V, to store information or communicate with a device on stations before it turn off. If the system hangs on when shutting down or is still alive longer than the time period named hard off, then PIC firmware will force the system to shut down right away to avoid consuming the battery power. The time period of off delay and hard off can be setting by the 4th to 6th pin on SW6. For more detail timing expression of the 4th to 6th pin on SW6, please refer to Table 2.9.

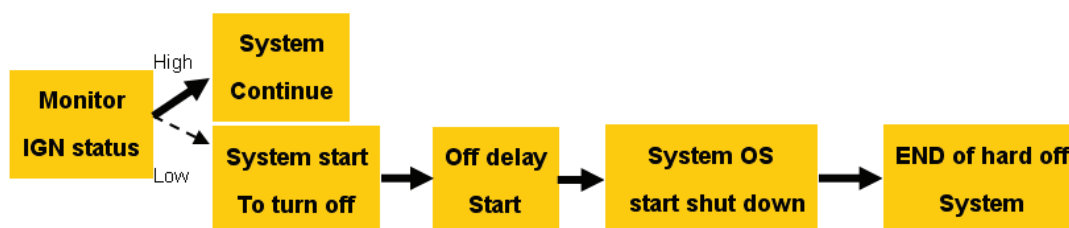


Figure 4.3 Turn off procedure of PIC firmware

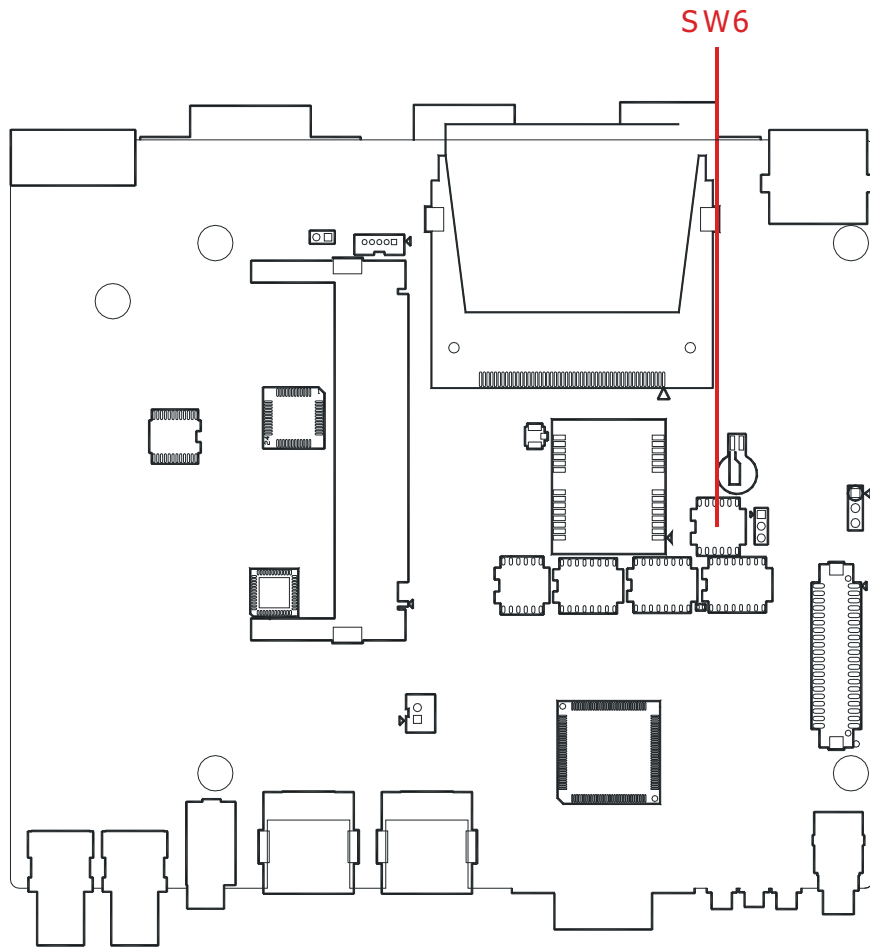


Figure 4.4 The switch location for off delay and hard off setting (SW6)

4.4 Battery status checking

The PIC firmware of ARK-1388V will keep detecting and monitoring the battery voltage of the power input when the system is operating. If it detects the battery voltage level is lower than 11V in 12V system or 22V in 24V system, ARK-1388V will be shut down with 5 seconds delay. Battery status checking can make sure the battery will not run out by ARK-1388V. As same as the turn off procedure, the system will start hard off if the system doesn't shut down in a setting time named hard off.

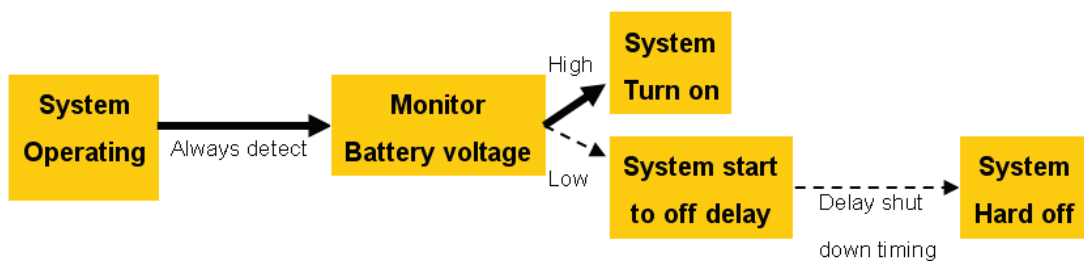


Figure 4.5 Battery status checking of PIC firmware