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CLAIMS

1. A sensor pulse signal processing method, comprising the following steps:

Step S1: adding a high frequency pulses group to each of two sides of an effective pulse of the sensor;

Step S2: if a pulse signal is detected by any of the high frequency pulses group during a pulse detection window period, creating an interruption to wake up a data collection device or a main control unit (MCU) immediately after the window period; if a pulse signal is not detected by any of the high frequency pulses group during the pulse detection window period, the process of creating the interruption to wake up the data collection device or the MCU immediately after the window period is not performed.

2. The sensor pulse signal processing method of claim 1, wherein said Step S1 comprises the following steps:

adding a first high frequency pulses group at a starting point which the effective pulse starts to output, and adding a second high frequency pulses group at an ending point which the output of the effective pulse ends.

3. The sensor pulse signal processing method of claim 2, wherein said Step S2 comprises the following steps:

when the data collection device or the MCU is transiting to a sleep mode, the pulse detection window period occurs; if during this pulse detection window period, a pulse signal is detected by the first high frequency pulses group, the interruption is created to wake up the data collection device or the MCU immediately after the pulse detection window period, such that the data collection device or the MCU enters a detecting state; if a pulse signal is not detected by the first high frequency pulses group during the pulse detection window period, the process of creating the interruption to wake up the data collection device or the MCU immediately after the pulse detection window period is not performed;

when a pulse of the sensor is transiting to an idle state, the pulse detection window period occurs; if during this pulse detection window period, a pulse signal is detected by the second high frequency pulses group, the interruption is created to wake up the data collection device or the MCU immediately after the pulse detection window period, such that the data collection device or the MCU enters a detecting state; if a pulse signal is not detected by the second high frequency pulses group during the pulse detection window period, the process of creating the interruption to wake up the data collection device or the MCU immediately after the pulse detection window period is not performed.

4. The sensor pulse signal processing method of claim 2, wherein a number of pulses within the first high frequency pulses group is equal to or greater than 2; and a cycle of the first high frequency pulses group is equal to or greater than 2 times a cycle of the window period.

5. The sensor pulse signal processing method of claim 2, wherein a number of pulses within the second high frequency pulses group is equal to or greater than 2; and a cycle of the second high frequency pulses group is equal to or greater than 2 times a cycle of the window period.

6. The sensor pulse signal processing method of claim 1, wherein a cycle of the effective pulse of the sensor is configured to be equal to or greater than 3 times a sampling cycle.
7. The sensor pulse signal processing method of claim 2, wherein a duty ratio of a pulse of the sensor is 50%, that is, a total cycle of the pulse of the sensor is two times a total cycle of the effective pulse, wherein the total cycle of the effective pulse = a cycle of the first high frequency pulses group + a cycle of the effective pulse + a cycle of the second high frequency pulses group.
8. The sensor pulse signal processing method of claim 1, wherein in said Step S1, the effective pulse of the sensor is output in a form of negative logic level of the sensor.
9. The sensor pulse signal processing method of claim 1, wherein in said Step S1, the effective pulse of the sensor is specifically output in a form of positive logic level of the sensor.