我的运动 SPORT

MILLION CONCEPT ELECTRONIC
(SHENZHEN) CO., LTD.
Functional Operation Specification
of Product

Model	W286		Development project	3D electronic paper step counter watch
Prepared by	Zou Linlin	Version	V6	Date 2015/04/11 Pages 30

I. Main functional characteristics

* The watch transmits step counter data via Bluetooth to the cell phone
* The watch automatically pairs with the Bluetooth device
* Time display: 1. display hours, minutes, seconds
  2. display in the form of 12/24 time system
* Step counter data display: Display number of steps, calories, distance, exercise time, progress in accomplishing the target on the current day

* Motion data storage: Automatically store the motion data (number of steps, calories, distance, exercise time, progress in accomplishing the target) for the last 10 days, and upload the data via Bluetooth to the cell phone app for viewing
* Automatic sleep: The step counter function will automatically go into the sleep mode when there are no step counter signals for 3 minutes
* Sleep monitoring function
* Set alarm clock vibration reminders and sedentary state reminders
* Adopt the ST LIS3DH 3D step counter sensor
* Include the pointer quartz watch function (using MS301B three-pin synchronous movement)
* Use a rechargeable lithium battery that can be recharged wirelessly
* Low voltage alarm

II. Function parameter range

Year: 2014~2099

Number of steps: 0~99999

Calories: 0.0~9999.9 kcal

Distance display: 0.00~999.99 km or miles

Exercise time: 0:00~24:00

Target number of steps: 100~99900 steps (the default value is 10000 steps)

Age: 10~99 (the default value is 25)

Weight: 20~200 kg or 44~441 lbs (the default value is 75 kg or 165 lbs)

Step pitch: 30~180 cm or 12~71 inches (the default value is 70 cm or 28 inches)

III. E-link full display effect and key operating instructions

Key press control
S1=MODE
Note: 1. The S1 key should be operated as a touch trigger

Symbol display and function description:

🏃: Step counter symbol: This symbol will be displayed when the step counter function is turned on, and will go off when this function goes into the sleep mode.

🕐: Clock symbol: This symbol will be displayed when the time display mode is activated

👣 : Step number symbol: This symbol will be displayed when the number of steps is displayed

🔥 : Calorie symbol: This symbol will be displayed when calorie value is displayed

📍 : Distance symbol: This symbol will be displayed when the distance is displayed

🌙 : Sleep symbol: This symbol will be displayed when the sleep mode is activated

〰 : Vibration symbol: This symbol will be displayed when the motor vibrates

🅱 : Bluetooth symbol: This symbol will be displayed when the Bluetooth function is turned on

🔋 : Battery symbol: This symbol will be displayed when battery power is running out

IV. Initialization after power-up

1. The watch will go into the time display mode 2 seconds after it is powered up or reset to E-link full display
2. Time: AM12:00, 12-hour system
3. Target steps: 10000 steps, step counter function ON
4. Default parameters: age: 25 unit: metric/imperial; weight: 75 kg (165 lbs); step: 70 cm (28 inches)
5. Number of steps: 0 steps
6. Calories: 0.0 kcal
7. Distance: 0.00 km

V. Function mode switching

Mode switching: With each touch of the touch area, you can switch among the following display modes in turn: time display → step number display →calorie display → distance display→ exercise time display → sleep mode display

Time display mode   Step number display mode   Calorie display mode   Distance display mode   Exercise time display mode

touch   **touch**   **touch**   **touch**   **touch**

12:30   3835   1853   2:13   0:28

touch

Touch 2 times in 1second

If the alarm clock is OFF

touch

Go into the sleep mode   Display the sleep mode   Alarm clock mode

SLEEP   ALARM
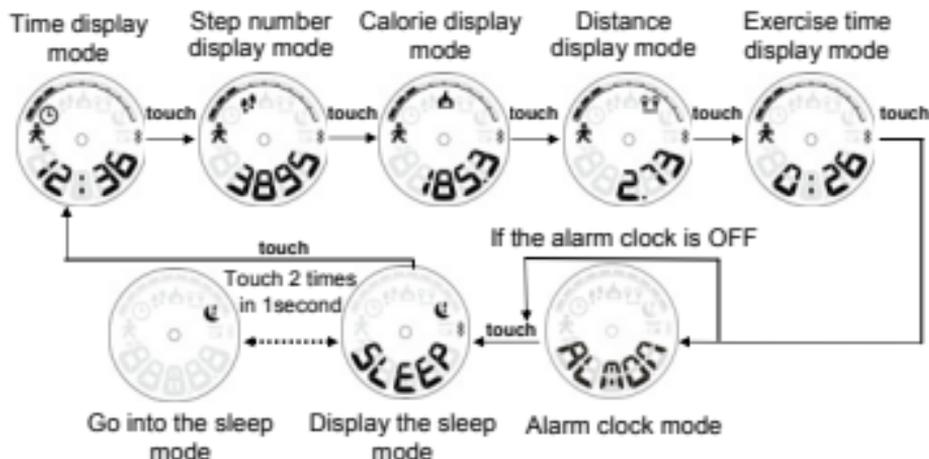
Display description:

1. Through the app settings, you can control which modes to be displayed and sort the display of such modes

VI. Time display mode
   Function description:
   1. Display hours and minutes,

2. Display using the 12/24 time system
3. Automatically refresh the screen once every minute

Time display screen

Display description:
1. Display hours and minutes,
2. The target number of steps and progress are displayed at the top

Operating instructions:

Mode switching: Switch to the step number display mode with one touch

1. Normally, in the app settings, you can set black text with white background/white text with black background, but the default is black text with white background

2. In the app settings, you can also set the standby to ON/OFF, and the default screen standby mode is off. If you activate Enable, then a full white background or a full black background will be displayed (depending on whether black text with white background/white text with black background is set, if black text with white background is set, then the standby will be displayed completely in white, if white text with black background is set, then the standby will be displayed completely in black)

3. Based on the 2 points above , it can be concluded that the default is normal display + standby OFF when MCU is powered on

4. In case the screen saver is turned on, after the last touch operation and maintaining the normal display for 10 seconds, the watch will go into the

standby mode in full black or full white (Note: At this moment, the watch only displays the effect of the pointer movement, but of course continues to record the real-time data); if there is no touch operation, it will always maintain a full black background or a full white background

Normal display

Black text with white background

White text with black background

Background only

Full white

Full black

touch | 10s later

touch | 10s later

lightened for 10S

lightened for 10S
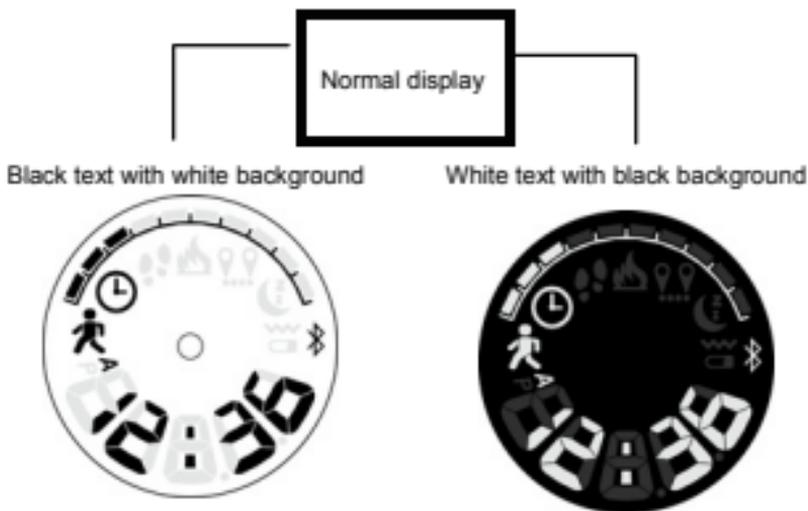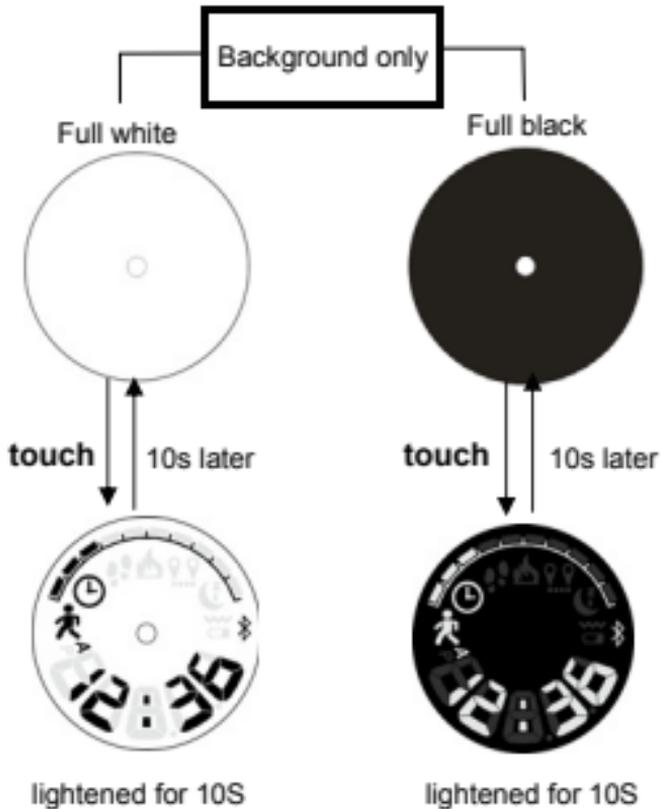
VII. Step number display mode

Function description:

1. Display the number of steps on the current day
2. Automatically refresh the screen every 10 seconds
3. Automatically return to the time display mode in case of no touch for 1 minute or no effective step count

Step count display screen

Display description:

1. Display the number of steps
2. The target number of steps and progress are displayed at the top

Operating instructions:

Mode switching: Switch to the calorie display mode after the touch operation

VIII. Calorie display mode

Function description:

1. Display the calories on the current day
2. Automatically refresh the screen every 10 seconds
3. Automatically return to the time display mode in case of no touch for 1 minute or no effective step count

Calorie display screen

Display description:

1. Display calories
2. The target number of steps and progress are displayed at the top

Operating instructions:

Mode switching: Switch to the distance display mode after the touch operation

IX. Distance display mode

Function description:

1. Display the distance on the current day

Distance display screen

2. Automatically refresh the screen every 10 seconds
3. Automatically return to the time display mode in case of no touch for 1 minute or no effective step count

Display description:

1. Display the distance
2. The target number of steps and progress are displayed at the top

Operating instructions:

Mode switching: Switch to the exercise time display mode after the touch operation

X. Exercise time display mode

Function description:

Exercise time display screen

1. Display the average speed on the current day
2. Automatically refresh the screen every 10 seconds
3. Automatically return to the time display mode in case of no touch for 1 minute or no effective step count

Display description:

1. Display the exercise time
2. The target number of steps and progress are displayed at the top

Operating instructions:

Mode switching: Switch to the alarm clock display mode after the touch operation

XI. Alarm clock mode

Function description:

1. Display the preset alarm clock information. The alarm clock is defaulted to be OFF when MCU is powered on

2. Through APP's settings, you can control the watch to turn on four groups of alarm clock. When the alarm time is reached, it will skip from any mode to the current display screen, and the watch will drive the motor to vibrate for 10s, and at the same time the electronic paper will display the alarm clock vibration symbol

Enable the alarm clock

3. When the alarm clock is vibrating, you can touch twice within 1 second to interrupt the vibration of the current alarm clock, and the screen will skip to the time display mode (Note: The time mode display screen will automatically appear after end or interruption of vibration)

Operating instructions:
Mode switching: Switch to the sleep display mode after the touch operation
Note: The alarm clock is defaulted to be turned off when the watch is powered on; when the alarm clock is turned off, the alarm clock mode will not

be displayed. If several groups of alarm clock have been preset, the mode switching will only display "ALMON"

Only when the time preset for the alarm clock is reached, any screen will skip to the current group of numbers (if more than one group of numbers are enabled, the other groups still will not be displayed)

XII. Sleep mode

Function description:

1. Monitor the sleep

Display description:

1. Before starting the sleep function, it will display the prompt of "SLEEP"

2. After going into sleep monitoring, it will only display the sleep symbol

Operating instructions:

Mode switching: Switch to the time display mode after pressing the S1 key

Go into the sleep mode: At the sleep interface, carry out touch operation twice within 1 second to go into the sleep mode

Exit the sleep mode: In the sleep mode, carry out touch operation twice within 1 second to exit the sleep mode

Viewing the time: Touch once under the sleep mode, it will display the time for 2s, and then automatically skip to the sleep mode

Turn on backlight to view the time: While viewing the time screen in the sleep mode, if long touch operation for 3s is detected during the time display for 2s, it will turn on the backlight for 3s and at the same time maintain the time display screen for 3s.

Sleep display screen

Before starting the sleep function

After starting the sleep function

Twice quick touch (within 1 second)

Touch once

Automatically skip after displaying for 2s

Page 20
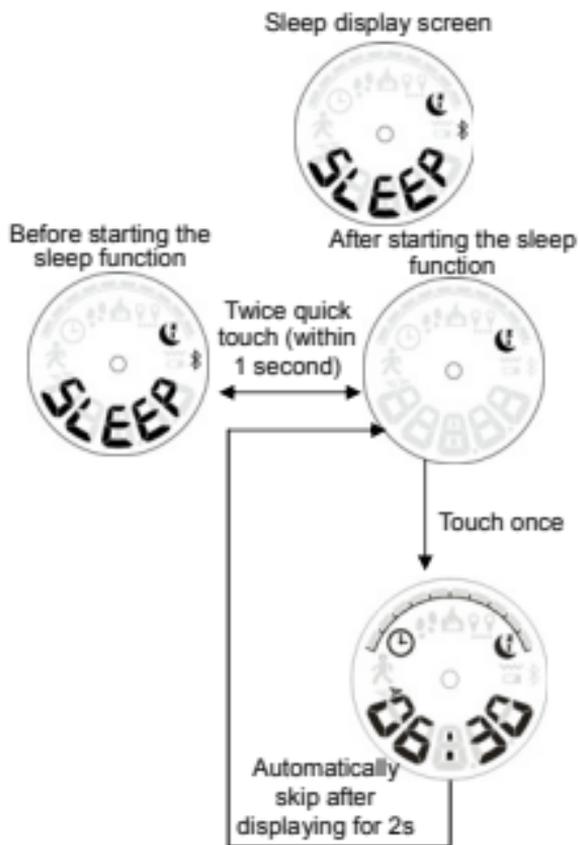
Note: 1. The above does not have the sleep reminder function. If it has the intelligent sleep reminder function, please refer to Article 1.17 and 1.18 of the Bluetooth Communication Agreement for specific requirements.

XIII. Backlight mode

Function description:

1. In any interface, touch the touch area for 3s, to automatically turn on backlight for 3 seconds and at the same time skip to the time mode (Note: turning on the backlight for 3 seconds means that the backlight is still on for 3 seconds after the touch operation is finished)
2. Through APP, you can set the function of Backlight On/ Off, and set a period of time for Backlight On

XIV. Bluetooth transmission mode

Function description:

Bluetooth transmission mode

1. In APP's settings, the user can choose to set the Bluetooth starting mode, which can be one of the following three modes:

   1) Automatic broadcast, namely, Bluetooth is always on

   2) Manual start of Bluetooth, namely, Bluetooth is on for 30s by every touch

   3) Regular start of Bluetooth, namely, Bluetooth is on for 5 minutes at a scheduled time point

2. The Bluetooth logo will be displayed for 30s every time Bluetooth is started; the watch will have a corresponding vibration response (for 1s) every time after successful synchronization with APP

3. During data transmission between the watch and APP, the Bluetooth logo will flash in 1 hz (flashing time depends on the quantity of transmitted data); after successful synchronization and vibration, the Bluetooth logo and the vibration logo will disappear.

Note: Please refer to Article 1.15 and 1.16 of the Million Communication Agreement for specific details of Bluetooth starting mode

XV. Charging mode

Function description:

1. During the charging process, the electronic paper only displays the charging screen (touch operation is invalid), in which the electronic paper will display FULL when it is fully charged, otherwise CHr.

Charging

Fully charged

XVI. Factory test mode

Function description:

1. MCU defaults using APP command to start the movement instead of pushing the pointer to work. (Note: When mounting the movement, the movement pointer shall be reset at 12 o'clock)

2. Firstly, open test App, touch the watch once to communicate the watch with App, if it is non-defective, the watch will long display OH (Note: Don't refresh the screen), and then start the pointer to quickly run clockwise to 6 o'clock

and stop; secondly, touch the watch once again to make the pointer quickly run counterclockwise to 3 o'clock and stop (Note: OH is still displayed as long as the screen is not refreshed); thirdly, touch once again to start the pointer to normally move for 21 hours (Note: the inspection personnel needs to check whether the pointer can move or not); finally, touch once again to clear the data and stop the pointer, then the OH screen will display 12:00AM (time operation stops), and it will go into the factory mode.

3. Upon receipt of the sample, under the factory mode, long touch the contact area for 5 seconds to exit the factory mode; then open App to set synchronization of personal information with the watch, update the time display, age, unit display mode, weight, step pitch, target number of steps and other parameters and data on the watch

```
Touch once →   First display OH
              (Don't refresh
               the screen)                          Still display OH
                            → Touch once →
              Upon display of    again
              OH, start the                         Immediately start
              pointer to quickly                    the pointer to
              run to 6:00 and                       quickly run to 3:00
              run (running                          and stop (running
              clockwise)                            anticlockwise)


Continue to                            OH disappears and
touch once                             12:00 AM is displayed
                                       immediately
              Still display OH
                         Go into the
                         factory mode  Data reset
              Start the pointer to  upon the last
              normally move for    touch
              21 hours and stop                     The pointer stops
                                                    running
```

Note: Please refer to Article 3.1, 3.2 and 3.3 of the
Million Communication Agreement for specific
details of the factory test mode

XVII. General description:

1. The pointer displays the current latest time, and the electronic paper displays the second latest time

2. The quartz movement's running is driven by pulse output, with a pulse output signal sent every second.

3. The progress in accomplishing the target is divided into 10 squares, and each square is 10% of the preset target number of steps

4. At 0 o'clock midnight, the pedometer will automatically save the current day's data (number of steps, exercise time, calories, distance and progress in accomplishing the target), and the screen will be reset

5. If there is no step counter signal or key operation for 3 minutes, it will automatically go into the sleep

mode. In the sleep mode, the step counter function will be turned off, and the display of the step counter "🏃" will be turned off as well. Under the sleep mode, if there is touch operation on the touch area or step counter signals are detected, it will exit the sleep mode and return to the last state before the sleep mode.

6. When there is a key operation, it will automatically turn on the Bluetooth function and display the "🕸" prompt, and 30 seconds later, the Bluetooth function will be automatically turned off.

7. Communication with the watch can be realized through App's settings. You can choose which screens for the watch to open for mode switching, and App also can control the order of such display screens

8. Upon going into the factory test mode, → first check battery power, if the power is less than 40%, it will display CHr instead of OH

9. When the battery power is below 10% (i.e. 3.56 V), the Bluetooth and vibration functions will turn off, the electronic paper will display the low power symbol only, stop the pointer's running and record the pointer's location

10. When the battery power is below 20% (i.e. 3.62 V), the Bluetooth and motor vibration will not activate , but the electronic paper will display the low power symbol, touch is still valid, and the pointer can run properly

11. Every time after successful synchronization with APP, the watch will give a vibration prompt for 1s, and display the vibration logo before and after the vibration. After vibration, the Bluetooth logo and the vibration logo will disappear

12. The function of sedentary state reminder is added. If the preset sedentary time is reached, the motor will vibrate for 5s (Note: The current screen will display the vibration logo, and the vibration logo will disappear after vibration)

13. For alarm clock vibration, the vibration will last 10s in different frequencies, in the 1-3s, it vibrates for 0.3s and pauses for 0.7s per time, in the 4-6s, it vibrates for 0.5s and pauses for 0.5s per time, in the 7-9s, it vibrates for 0.8s and pauses for 0.2s per time, and in the last 1 second, it vibrates without pause

14. If the watch has set the standby mode through APP (full black or full white), then the sleep logo will still be displayed if it goes into the sleep mode