

VDB1610 Datasheet

Document Information

Title	VDB1610 Datasheet		
Document Type	Datasheet		
Document No.	WN-18120018		
Ver.& Date	V1.01	09-Apr-2020	
Classification	Opened		

Version History

Version	Content	Maker	Year.Month.Day
V1.01	Initial Release	Sherman	2020.04.09

Content

1. Brief Introduction.....	3
2. Basic Parameter.....	4
3. Product Function.....	5
3.1 Power on.....	6
3.2 SOS.....	6
3.3 Power off.....	6
3.4 Charge.....	6
3.5 Heart rate.....	6
3.6 Ant-disassemble.....	7
3.7 Display and button.....	7
4. Dimension.....	8
5. Contact.....	9

1. Brief Introduction

VDB1610 is an BLE (Bluetooth Low Energy) anti-self-dissemble watch. It uses nRF52832 to maintain low power consumption and high accuracy of broadcasting information. It can get a 3~5meter accuracy using BLE gateway to run RSSI position algorithm. With the help of BLE beacon, it can get better accuracy of about 1meter.

VDB1610 integrates a 6-axiz accelerometer, which can act like a pedometer and can also switch the positioning frequency independently of moving and stilling. Besides, it also has a heart rate sensor which can work periodically to get wearer's heart rate and upload to server for healthy care. The 0.96inch screen can show information sent by server and other information like battery level, heart rate, pedometer etc. Under the screen lies a button which can be used as SOS or power on/off. Meanwhile, the wrist band contains internal circuit which can detect disassemble or cut off and trigger warning signal, making it ideal for medical care or epidemic isolation.

It has a 750mAh Li-battery which can be charged through USB to magnetic cable. The maximum standby time can reach 3 months when it works in a still mode and not wake up the screen.



Figure 1-1 VD1502-PBRDproduct picture

2. Basic Parameter

Item	Value
Broadcast Frequency when moving	10Hz
Broadcast Frequency when stilling	1Hz
Power consumption	Idle 50uA ; BLE TX Burst 9mA@0dBm
Accuracy	3~5meter
Battery life	3 months (stiling)
Positioning distance	20meters
Battery capacity	750mAh
Operation Temp.	-20~60°C
Screen Parameter	
Pixel	96*96 dots
Size	0.96inch
Color & Brightness	Single color white, normal 300cd/m ² , idle50cd/m ²
Heart rate sensor	
Sample rate	10~1000 SPS (Sample per second)
LED emitter / Photo-diode receiver range	101dB/ 98dB
Accelerometer	3-axis, ±2g/±4g/±8g/±16g
Battery	750mAh, 28*32*9.3mm
Charger Parameter	DC5V /2A

Table2-1 Product parameter

3. Product Function



Figure 3-1 VDB1610 interface

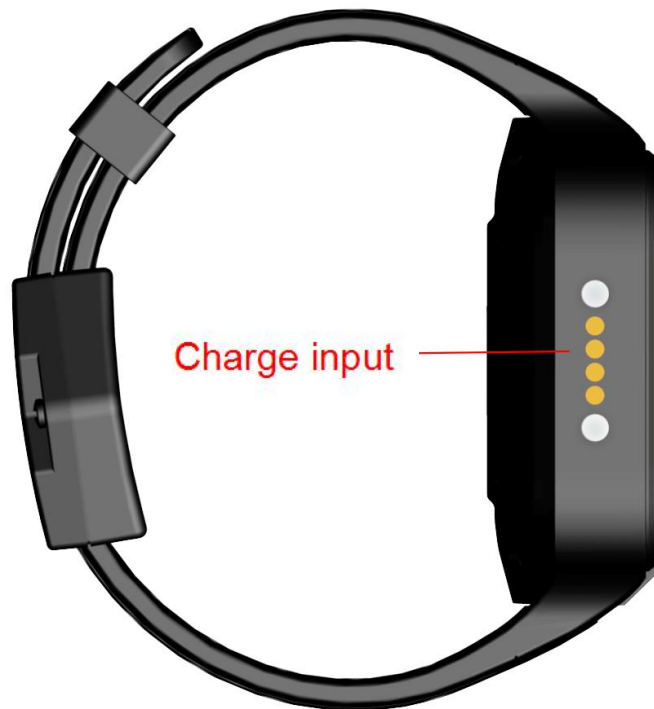


Figure 3-2 VDB1610 Side View

3.1 Power on

Long press for 3~5 seconds till the screen or the LED is on. The screen will show date, time, battery level by default. It will broadcast BLE MAC address and DW1000 ID for 30 seconds. The screen will turn off when there is no button press for 10 seconds.

3.2 SOS

After power on, long press the button for 3 second will trigger SOS. And the watch will send the SOS information to the server.

3.3 Power off

After power on, short press the button quickly for 3 or more times, then long press the button for 3 seconds, the screen will turn off when power off.

3.4 Charge

Use the paired charging USB-to-magnetic line to connect 5V DC charge adapter or other USB power source , and connect the watch with the magnetic end. The battery level indicator on the screen will roll in a cycle till it is fully charged. Generally it needs 3 hours charging.

3.5 Heart rate

After power on, the heart rate sensor will work for 20 seconds and report to the server every 10 minutes by default.

3.6 Ant-disassemble

The wrist band connector use 2 mini screws which is difficult to disassemble without tool. When the wrist band is disassembled or cut off it will send alert message to the server to remind the inspector.

3.7 Display and button

After power on , it will show HR word. H indicate heart rate fuction is on, and R indicate step counting is running. The battery level indicator lie on the top right. The hour and minute lies in the middle of the screen while seconds lies in the middle of bottom line. Date and week lies separately in the left and right of the bottom line.


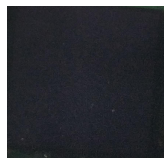
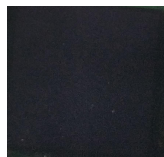


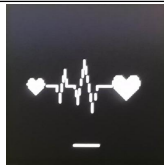

Basic Function	Button operation	
Power on	Long press button for 3 seconds	
Power off	3 short press and then long press for 3 seconds	
Idle mode	No press for 10 seconds	
Wake up	Short press (After power on)	
SOS or incoming message	Long press for 3 seconds	Vibrate
Step counting interface	Short press (when screen is on)	
Heart rate interface	Short press twice (when screen is on)	
Charging	No button press (Battery indicator will roll)	

Table 3-1 Button and display

4. Dimension

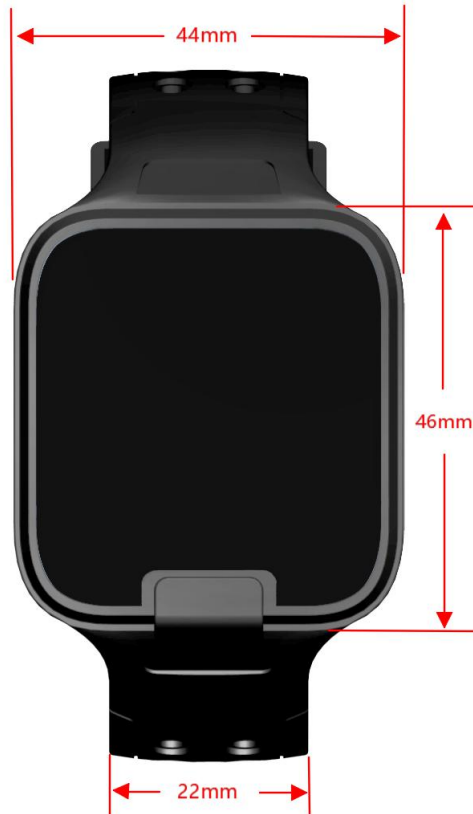


Figure 4-1 VDB1610 Top view ($\pm 1\text{mm}$)



Figure4-2 VDB1610 side ($\pm 1\text{mm}$)

5. Contact

V-Power Information Technology Co., Ltd

Address: 6 Floor, Building 9, Lijincheng Scientific & Technical Park, Gongye East Road, Longhua District, Shenzhen

Tel: 86-755 23779409

Fax: 86-755 23779409

E-mail: sales@95power.com.cn

Website: www.95power.com.cn