

VDU1502-PBR User manual

文档信息

标题	VDU1502-PBR User manual		
文档类型	User manual		
文档编号	WN-19080023		
版本日期	V1.03	3-June-2020	
秘密等级	Open		

历史版本

版本号	更新内容	制作人	日期
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V1.01	初始文档	Shylight	20190718
V1.02	更改图片及规范文档格式	Lin	20200312
V1.03	参数修改	Shylight	20200603

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目录

1. Product Description	4
2. Basic Parameters	4
3 Product Use	6
3.1 On.....	7
3.2 SOS	7
3.3 Off.....	7
3.4 Charging.....	7
3.5 Heart Rate Detection.....	7
3.6 Anti-Dismantle Function	7
3.7 Summary of key functions	7
4. Size Parameters	10
5. Contact	8

1. 产品介绍

VDU1502-PBR is a UWB (ultra-wideband) technology-based anti-self-destructive positioning watch. The main control chip uses NRF52832 to realize UWB signal transmission and reception control, and the positioning chip uses DW1000 to realize UWB-based TDOA indoor high-precision algorithm. High-precision indoor positioning of the wearer can be realized. The built-in acceleration sensor can intelligently switch the positioning frequency when the personnel are moving and stationary, and realize the standby with lowest power consumption. At the same time, the watch has a SOS button for help function, which can realize personnel positioning in nursing homes, construction sites, factories, mines, hospitals, prisons and other safety monitoring occasions. The watch is equipped with a heart rate sensor to periodically return the heart rate data of the guardian; the watch strap has its own anti-self-disassembly detection, and the watch strap is cut or disassembled and the message will be sent to the background. The watch without a screen has a built-in high-brightness LED light to remind the working status of different functions of the watch.



图 1-1 VD1502-PBR 产品图片

2. 基本参数

基本工作参数	
运动刷新频率	10Hz（默认，可更改）

Static refresh frequency	1Hz (default, can be changed)
Power consumption	50uA standby, 150mA positioning launch
Accuracy	up to 10cm
Use time for one charge	about 2 months (1Hz positioning)
Positioning distance	25~50 meters
Battery capacity	750mAh
Working temperature	-20~60°C
UWB parameters	
Frequency range	default 3774~4243.2MHz
Support channel	can modify support channel ch1-5
Protocol standard	IEEE 802.15.4-2011 UW
Storage	512 kB flash/64 kB RAM
Charging adapter matching parameters	
Charging voltage	DC5V /1A
Temperature	
Working temperature	-20°C-60°C

表 2-1 产品参数

3. Product Use



图 3-1 VDU1502-PBR 正面



图 3-2 VDU1502-PBR 侧面

3.1 On

Press and hold the button for 3 seconds until the LED light turns on, release the button, the LED light will stay on for 5 seconds and then go out, indicating a successful boot. Just start the opportunity to broadcast the 30s Bluetooth MAC address and DW1000 ID. The power-on status LED will light up every 8s. The watch will be on when charging.

3.2 SOS

After the watch is turned on successfully, long press the button for 3s to indicate an emergency call for help, the LED light will flash quickly for 3s and send the call for help message to the background.

3.3 Off

After powering on, press the button 3 times in a row, with an interval of about 1s each time. The last long press, the LED will stay on for 5s and then go out to indicate a successful shutdown.

3.4 Charging

Insert one end of the matching charging cable into the 5V DC charging adapter, and use the magnetic force to align the other end with the charging socket. The LED light starts to flicker at a frequency of 1s. When it is full, the LED light will turn off, indicating full

3.5 Heart rate detection

After power on, a heart rate test will be done every 10min, every 20s, and the test data will be sent to the background.

3.6 Anti-dismantling function

When the strap is disassembled or cut, the watch will send disassembly information to the background to remind the inspector.

3.7 Summary of key functions

Basic function	Button operation	Light status
Turn on	Press and hold the button for 3s until the LED lights up	LED lights up for 5 seconds to turn off the lights
Off	Three short presses and one long press	the LED will be on for 5s to turn off the light
SOS	power-on state long press the button for 3s	LED flashes quickly for 3s
The heart rate detection is turned on by default	无	Heart rate green light is on for 20s at a time for 10 minutes
Turn off the heart rate detection	Short press the button three times	The heart rate green light turns off
Turn on the heart rate detection	When the heart rate is off, press the button three times	The heart rate green light is on
Charging	无	LED flashing once every 1s
Fully charged	无	LED stops blinking
Low battery reminder	无	LED flashes once for 2s to remind charging

表 3-1 按键功能简表

4. 尺寸参数



图 4-1 VDU1502-PBR 正面尺寸 ($\pm 1\text{mm}$)

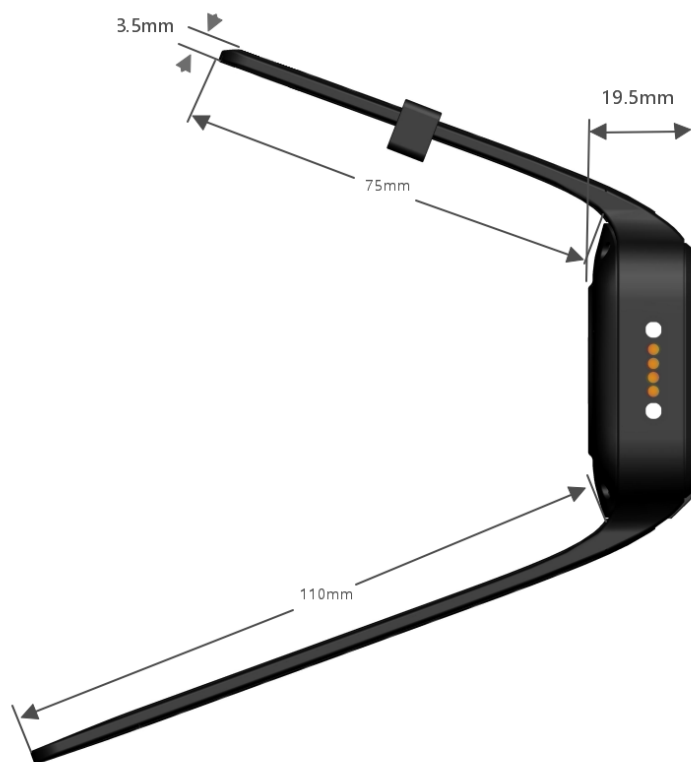


图 4-2 VDU1502-PBR 侧面尺寸 ($\pm 1\text{mm}$)

5. 联系方式

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