

MicroLifeDevice SDK (WBP_Home - Windows)

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Revise history

Date	Document Version	Description
2024/08/23	1.0	First release.

Chapter 1 Development Environment

This user manual serves as a quick guide to MicroLifeDeviceSDK / APIs and shows how to integrate into a Windows C# Demo App.

Development Environment in the following

Compatible Development Tools	Microsoft Visual Studio 2022 (recommended)
Programming language:	C#
Target framework:	.NET Standard 2.0

Importing steps are described below.

1.1. First of all, add WBP_Home, Connection.dll into a development project.

1.2. Import class as bellows.

```
using WBP_Home.Class;
```

```
using Connection.Class;
```

Chapter 2 Connection Sequence of WBP_Home

The WBP_Home object is applied managing the USB communication.

2.1 Initiate WBP_Home Object with API key and set connected/disconnected delegation for WBP_Home.

```
Home = new WBP_Home.WBP_Home(key: "");
Home.OnConnected += Home_OnConnected;
Home.OnReceived += Home_OnReceived;
Home.OnDisConnected += Home_OnDisConnected;
```

2.2 Call InitDeviceWatcher to initialize WBP_Home monitoring for USB status.

```
Home.InitDeviceWatcher();
```

2.3 Connection

2.3-1 For USB, the OnConnected delegate will be called automatically when the device is connected to the computer via USB.

2.4 When the data is transferred via USB. The parsed data will be returned through the command object, which will be explained in section 3-4.

The command object will be used as the return value and sent to OnReceived delegate at the same time.

```
var callback = Home.SendMessage(WBP_Home.SendMessage.ToCommand.SN_Read());
if (callback.Command.CMD == (byte)WBP_Home.Enum.Command.Nack) {
    Console.WriteLine(value: "Send command failed");
    return;
} else if (!callback.Success) {
    Console.WriteLine(value: "No call back,Please try again");
    return;
}
Console.WriteLine("SN:" + (string)callback.Command.Data);
```

2.5 The OnDisConnected delegate will be called when the device is disconnected.

The following is the sample code.

```
private static WBP_Home.WBP_Home Home;
1 reference
public Form1() {
    InitializeComponent();
    Home = new WBP_Home.WBP_Home(key: "");
    Home.OnConnected += Home_OnConnected;
    Home.OnReceived += Home_OnReceived;
    Home.OnDisconnected += Home_OnDisconnected;
    Home.InitDeviceWatcher();
}
2 references
private void Home_OnConnected() {
}
2 references
private void Home_OnDisconnected() {
}
```

Chapter 3 APIs of WBP_Home

This chapter will explain the application of each API and the meaning of its parameters.

**** Different WPB Home versions support different APIs and need to be confirmed through command 3-3-1 "WatchBPHomeVersion_Read"**

3-1.WBP_Home Initialize

API	WBP_Home(string key);
Function	Initialize WBP Home object
Return object	WBP_Home: After the initialization is successful, a WBP_Home object will be created.
Parameter	key: API Key is required to use subsequent APIs, if you do not have it, please contact Microlife ** If the API key is incorrect, you will receive a "Key Fail!" exception..

3-2 Initiate and wait for device to connect

API	void InitDeviceWatcher()
Function	Initiate and wait for device to connect
Return object	None
Parameter	None

3-3.Send Command to device

API	(bool Success, Command Command) SendMessage (Message message, Func<Command, bool > predicate = null, int retry = 3, bool ResetCommand = true , int timeout = 0);
Function	Transmit message to the Device.
Return object	Success: Indicates whether the command was successfully written to the device. Command: A class containing parsed data and message which sent to the device, described in 4-1-1 . ** If the Success is true, and the Command.CMD is not NACK, the device has successfully received this command.
Parameter	Message: A class containing message which sent to the device. Predicate: If the command requires additional data, it will be provided here. Retry: Retry times ResetCommand: Whether to clear the last command timeout: timeout in milliseconds ** The contents of the above parameters are generated by the following API.

3-3-1. Read Watch BP Home version

Command	WatchBPHomeVersion_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.WatchBPHomeVersion_Read())
Return Command Data Type.	The object type of Command.data is a Enum of WBP_Home_Ver, described in 4-2-1 . ** Different versions support different APIs, please refer to the comparison table in 3-4

3-3-2. Write User ID and clear memory

Command	ID_WriteAndClearData
API	SendMessage(WBP_Home.SendMessage.ToCommand.ID_WriteAndClearData(string ID, bool clearCasual, bool clearDiag))
Return Command Data Type.	None. ** If the Success is true, and the Command.CMD is not NACK, the device has successfully received this command.
Parameter	ID: User ID string to be written, maximum 6 ASCII characters clearCasual: If set to true, Casual mode data will be cleared. clearDiag: If set to true, Diagnostic mode data will be cleared.

3-3-3. Read User ID from BPM

Command	ID_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.ID_Read())
Return Command Data Type	The object type of Command.data is String .

3-3-4. Read device Time from BPM.

Command	DateTime_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.DateTime_Read())
Return Command Data Type.	The object type of Command.data is DateTimeOffset .

3-3-5. Write device Time to BPM.

Command	DateTime_Write
API	SendMessage(WBP_Home.SendMessage.ToCommand.DateTime_Write((DateTimeOffset dateTime)
Return	None.

Command Data Type.	** If the Success is true, and the Command.CMD is not NACK, the device has successfully received this command.
--------------------	---

3-3-6. Read Casual mode data from BPM.

Command	CasualData_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.CasualData_Read());
Return Command Data Type.	The object type of Command.data is Data class, which is a class containing parsed BP data, described in 4-1-2 .

3-3-7. Read Diagnostic mode data from BPM.

Command	DiagnosticData_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.DiagnosticData_Read());
Return Command Data Type.	The object type of Command.data is Data class, which is a class containing parsed BP data, described in 4-1-2 .

3-3-8. Read device Setting from BPM.

Command	BPMSetting_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.BPMSetting_Read());
Return Command Data Type.	The object type of Command.data is BPMSetting class, which is a class containing parsed BP data, described in 4-1-3 .

3-3-9. Read device Setting2 from BPM.

Command	BPMSetting2_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.BPMSetting2_Read());
Return Command Data Type.	The object type of Command.data is BPMSetting2 class, which is a class containing parsed BP data, described in 4-1-4 .

3-3-10. Read serial number

Command	SN_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.SN_Read());
Return Command Data Type.	The object type of Command.data is String .

3-3-11. Read memory index (usual mode)

Command	MemoryIndex_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.MemoryIndex_Read());
Return Command Data Type.	The object type of Command.data is MemoryIndex class, which is a class containing parsed BP data, described in 4-1-5 .

3-3-12. Read single memory data by index (usual mode).

Command	SingleMemoryDataByIndex_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.SingleMemoryDataByIndex_Read(int index));
Return Command Data Type.	The object type of Command.data is Data class, which is a class containing parsed BP data, described in 4-1-2 . ** If the Success is true, and the Command.CMD is not NACK, the device has successfully received this command.
Parameter	index: The data index to be read, which needs to be smaller than the CurrentMemoryIndex obtained in API: MemoryIndex_Read

3-3-13. Read device ID

Command	Device_ID_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand. Device_ID_Read ());
Return Command Data Type.	The object type of Command.data is String .

3-3-14. Read casual mode memory include each measurements.

Command	Device_ID_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand. CasualData_include_each_Read ());
Return Command Data Type.	The object type of Command.data is UsualDataWithEachMeasurements . , which is a class containing parsed BP data, described in 4-1-6 .

3-3-15. Read measurement setting

Command	Measurement_setting_Read
API	SendMessage(WBP_Home.SendMessage.ToCommand.Measurement_setting_Read())
Return Command	The object type of Command.data is MeasurementSetting . , which is a class containing parsed Device measurement setting, described in 4-1-7 .

Data Type.	
------------	--

3-3-15. Change measurement setting

Command	Measurement_setting_Change
API	SendMessage(WBP_Home.SendMessage.ToCommand.Measurement_setting_Change(MeasurementSetting measurementSetting));
Return Command Data Type.	None. ** If the Success is true, and the Command.CMD is not NACK, the device has successfully received this command.
Parameter	measurementSetting: Measurement_setting to be written.

3-4.API support comparison table

API	Supported version. Ref to 4-2-1 WBP_Home_Ver
3-3-1.WatchBPHomeVersion_Read	All version support
3-3-2.ID_WriteAndClearData	
3-3-3.ID_Read	
3-3-4.DateTime_Read	
3-3-5.DateTime_Write	
3-3-6.CasualData_Read	
3-3-7.DiagnosticData_Read	
3-3-8.BPMSetting_Read	
3-3-9.BPMSetting2_Read	
3-3-10.SN_Read	BT014 support
3-3-11.MemoryIndex_Read	For BT011, please use SN_Read first. If you receive NACK, it means these three commands are not supported.
3-3-12.SingleMemoryDataByIndex_Read	
3-3-13.Device_ID_Read	BT014 support
3-3-14. CasualData_include_each_Read	BT014 Home A support
3-3-15. Measurement_setting_Read	These three commands can only be used when the command BPMSetting2_Read receives HomeAUI as True & WBP_Home_Ver is equal to BT014
3-3-16. Measurement_setting_Change	

Chapter 4 Class & Object of WBP_Home

4-1 Class

4-1-1.Command Class

Name:	Command
Definition	A class containing parsed data and message sent to the device.
members	byte CMD: Record the current command, if it is NACK, it means the transmission failed. byte Device: Record the device. object Data: parsed data

4-1-2.Data Class

Name:	Data
Definition	A class containing parsed BP data.
members	int ID: The ID of the data ,which is only valid in command “SingleMemoryDataByIndex_Read” DateTypeEnum DateType: A Enum of DateTypeEnum, described in 4-2-2. DateTimeOffset MeasureDateTime: Record time int Systole: The value of systole int Diastole: The value of diastole int Pulse: heart rate int Mam: Deprecated int Comments: Deprecated ArrhythmiaEnum Arr: A Enum of ArrhythmiaEnum, described in 4-2-3. AMPM Ampm: A Enum of AMPM, described in 4-2-4, which is only valid in Diagnostic mode. DayNightEnum DayNight: Deprecated DataTypeEnum DataType: A Enum of DataTypeEnum, described in 4-2-5. ErrMsgEnum ErrMsg: Deprecated int MAP: Deprecated string Err: Deprecated

4-1-3. BPMSetting Class

Name:	BPMSetting
Definition	A class containing parsed Device setting.
members	int MorAFrom: Diagnostic moring period start. int MorATo: Diagnostic moring period end. <i>For example: Diagnostic moring period 5:00~12:00</i>

	<p><i>MorAFrom</i> : "5" <i>MorATo</i>: "12"</p> <p>int EveAFrom: Diagnostic evening period start.</p> <p>int EveATo: Diagnostic evening period end.</p> <p>int DiagTimes: Diagnostic times: 1~4 time.</p> <p>int WaitTime: Diagnostic first wait time(second)</p> <p>int RESTTime: Diagnostic reset time(second)</p> <p>int WorkingDay: Diagnostic WorkingDay</p> <p>int MemorySet: Diagnostic MemorySet</p> <p>BPMSetting1 Setting1: A class of BPMSetting1, described in 4-1-3-1.</p> <p>BPMSetting2 Setting2: A class of BPMSetting2, described in 4-1-3-2.</p>
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4-1-3-1. BPMSetting. BPMSetting1 Class

Name:	BPMSetting. BPMSetting1
Definition	A class containing parsed Device setting.
members	<p>bool Linear_Or_Passive_Value: False: passive valve, True: linear valve</p> <p>bool MeasureOnOffLine: Deprecated</p> <p>bool O12h_Or_24h: False: 24hr, True: 12hr</p> <p>bool AutoSendDataAfterMeasure: Deprecated</p> <p>bool BeepOn_Or_BeepOff: Deprecated</p> <p>bool WithEliminate1DayReading: True: without eliminate 1st day reading, False: with eliminate 1st day reading</p> <p>bool Kpa: False: mmHg True:Kpa</p> <p>bool With_Or_Without_LabVIEW_RS232: False: without LabVIEW rs232, True: with LabVIEW rs232</p>

4-1-3-2. BPMSetting. BPMSetting2 Class

Name:	BPMSetting. BPMSetting2
Definition	A class containing parsed Device setting.
members	<p>bool ALL_AFIBOn_Or_AFIBOff: False: AFib all off, True: AFib all on</p> <p>bool UsualMode_PADOn_Or_PADOff: False: Usual mode PAD off, True: Usual mode PAD on</p> <p>bool UsualMode_AFIBOn_Or_AFIBOff: False: Usual mode AFib off, True: Usual mode AFib on</p> <p>bool ALL_BeepOn_Or_BeepOff: False: Beep on(all mode), True: Beep off(all mode)</p> <p>bool ALL_PADOn_Or_PADOff: False: PAD all off, True: PAD all on</p> <p>bool NocturnalModePAD: Deprecated</p>

	bool NocturnalModeAFIB: Deprecated
	bool NocturnalMode: Deprecated

4-1-4. BPMSetting2 Class

Name:	BPMSetting2
Definition	A class containing parsed Device setting.
members	BaudRate BaudRate: reserved double Batteryf: Voltage of the device battery. BPMSetting3 Setting3: A class of BPMSetting3, described in 4-1-4-1. int HI_infPressure: Highest inflation pressure int OffsetYear: reserved

4-1-4-1. BPMSetting2. BPMSetting3 Class

Name:	BPMSetting. BPMSetting3
Definition	A class containing parsed Device setting.
members	bool MAPCorrection: False: MAPCorrection off, True: MAPCorrection on bool RxWakeup: Deprecated bool HomeAUI: False: WBP Home UI , True:: WBP HomeA UI bool HideDiagnosticModeResults: False: N/A , True:: Hide diagnostic mode results bool Bluetooth: False: N/A , True:: with Bluetooth function bool Bluetooth_NewUI: False: Bluetooth old UI , True:: Bluetooth new UI bool FactoryTest: False: N/A , True:: continuous measure for factory test.

4-1-5. MemoryIndex Class

Name:	MemoryIndex
Definition	A class containing parsed Memory index
members	int Mode: reserved int TotalMemoryIndex: Total memory index, currently fixed at 250 int CurrentMemoryIndex: Current memory index

4-1-6. UsualDataWithEachMeasurements Class

Name:	MemoryIndex
Definition	A class containing parsed BP Data
members	int Mode: 0: Casual mode / 1: Diagnostic mode , fixed to Casual mode int History_Data_Number: The history measurement times store in memory. List<AvgData> MData: BP Data. , described in 4-1-6-1.

4-1-6-1. AvgData Class

Name:	AvgData
Definition	A class containing parsed BP data.
members	<p>int ID: Deprecated</p> <p>DateTypeEnum DateType: Deprecated</p> <p>DateTimeOffset MeasureDateTime: Record time</p> <p>int SystoleAvg: Average systolic data for each measurement</p> <p>int DiastoleAvg: Average diastole data for each measurement</p> <p>int PulseAvg: Average heart rate data for each measurement</p> <p>int Sys1: The single data of systole for each measurement.</p> <p>int Sys2: The single data of systole for each measurement.</p> <p>int Sys3: The single data of systole for each measurement.</p> <p>int Dia1: The single data of diastole for each measurement.</p> <p>int Dia2: The single data of diastole for each measurement.</p> <p>int Dia3: The single data of diastole for each measurement.</p> <p>int Pulse1: The single data of heart rate for each measurement.</p> <p>int Pulse2: The single data of heart rate for each measurement.</p> <p>int Pulse3: The single data of heart rate for each measurement.</p> <p>bool AF1: The single data detect with Afib.</p> <p>bool AF2: The single data detect with Afib.</p> <p>bool AF3: The single data detect with Afib.</p> <p>int Mam: Deprecated</p> <p>int Comments: Deprecated</p> <p>ArrhythmiaEnum Arr: A Enum of ArrhythmiaEnum, described in 4-2-3.</p> <p>AMPM Ampm: Deprecated</p> <p>DayNightEnum DayNight: Deprecated</p> <p>DateTypeEnum DateType: Deprecated</p> <p>ErrMsgEnum ErrMsg: Deprecated</p> <p>int MAP: Deprecated</p> <p>string Err: Deprecated</p>

4-1-7. MeasurementSetting

Name:	MeasurementSetting
Definition	A class containing parsed device measurement setting
members	<p>int MeasurementTimes: It's the measurement times (1~3) for usual mode.</p> <p>Measurement_Setting_Time RestTime, A Enum of RestTime, described in 4-2-6.</p> <p>Measurement_Setting_Time IntervalTime: A Enum of IntervalTime, described in 4-2-6.</p>

	<p>bool ExcludeAverage: False:average all measurements True:average excludes 1st measurement</p> <p>bool SW_Afib: Enable the Afib function. (this setting is valid with the Afib option enable in API 3-3-9)</p>
--	--

4-2 Enum

4-2-1 WBP_Home_Ver

value		Note
0	none	
1	BT011	
2	WN001	Deprecated
3	BT012	Deprecated
4	WN002	Deprecated
5	WN004	Deprecated
50	BT014	

4-2-2 DateTypeEnum

value		Note
0	normal	Default
1	Average	average of all morning diag bp records
2	Morning	average of all morning diag bp records
3	Evening	average of all evening diag bp records

4-2-3 ArrhythmiaEnum

value	
0	NONE
1	PAD
2	AFIB

4-2-4 AMPM

value		Not
0	none	
1	am	The data is measured in night with diagnostic mode
2	pm	The data is measured in morning with diagnostic mode

4-2-5 DataTypeEnum

value		Note
0	none	Deprecated
1	all	Deprecated
2	usual	

3	diagnostic	
4	ABP	Deprecated
5	memo	Deprecated

4-2-6 Measurement_Setting_Time

value		Note
0	skip	0 sec
1	sec_15	15 sec
2	Sec_30	30 sec
3	Sec_60	60 sec
4	Sec_120	120 sec
5	Sec_180	180 sec
6	Sec_240	240 sec
7	Sec_300	300 sec

Chapter 5 Instruction of Demo App

5-1. Input the API Key on the API Key textbox and click “Check” button to active the demo.

WBP_Home_API_Demo_Customer v1.0.1.4 WBP_Home v2.2.8.0

API Key: Check

Device Connect

Device Path

===All Device Support

UserID read

ID

Device Time

2024/08/22 13:50

UserID write and Clear Memory

New ID

Device SN

SN:

Device ID

ID:

Clear Usual

Clear Diagnostic

BPM Setting 2

HI_infPressure

Baud Rate

Batteryf

OffsetYear

MAPCorrection

Rx wakeup for connection

WBP UI

diagnostic mode results

Bluetooth function

Bluetooth UI

FactoryTest

sent single memory data by index

Measurement Setting

Measuremen Times

Rest Time

Interval Time

Exclude Average

SW_Afib

5-2. If the device is connected, the Send button will be enabled and Device Path will display the path

WBP_Home_API_Demo_Customer v1.0.1.4 WBP_Home v2.2.8.0

API Key: Check

Device Connect

Device Path

===All Device Support

UserID read

ID

Device Time

2024/08/22 13:50

UserID write and Clear Memory

New ID

Device SN

SN:

Device ID

ID:

Clear Usual

Clear Diagnostic

BPM Setting 2

HI_infPressure

Baud Rate

Batteryf

OffsetYear

MAPCorrection

Rx wakeup for connection

WBP UI

diagnostic mode results

Bluetooth function

Bluetooth UI

FactoryTest

sent single memory data by index

Measurement Setting

Measuremen Times

Rest Time

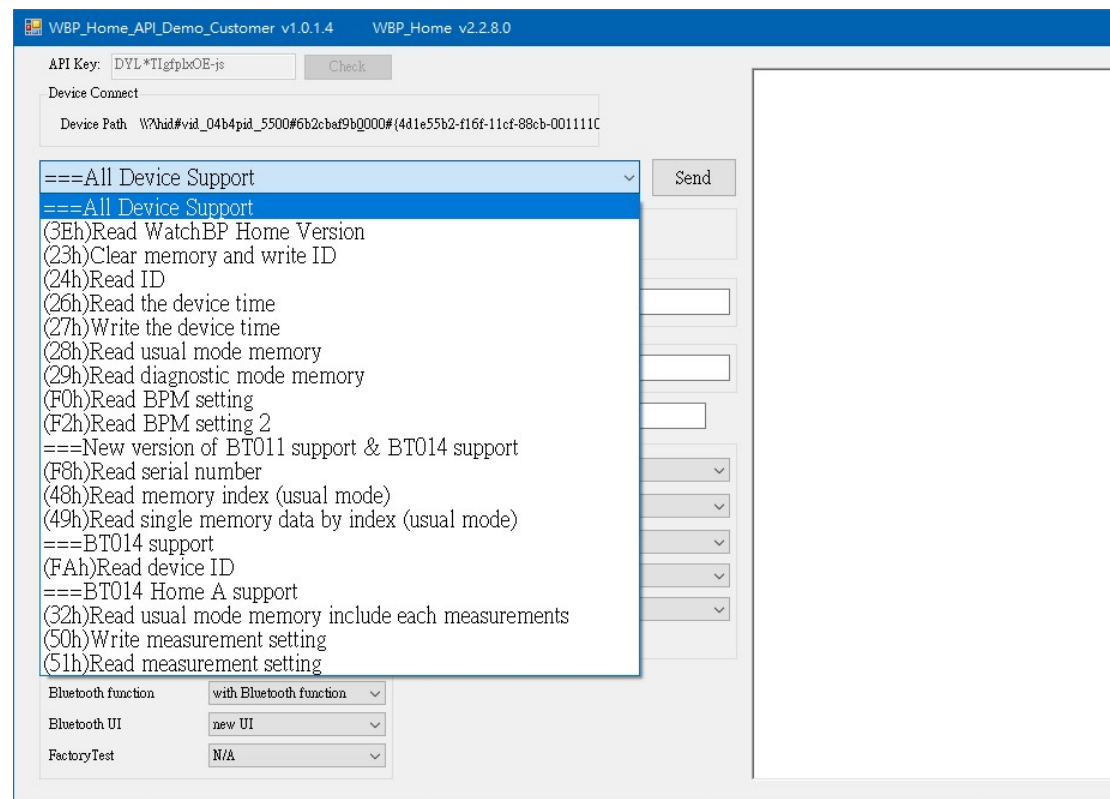
Interval Time

Exclude Average

SW_Afib

Similarly, if the device is disconnected in anytime, the Send button will be disabled.

5-3. Select the command on the combobox and click the “Send” button to send it.



The output will be displayed in the textbox on the right

WBP_Home_API_Demo_Customer v1.0.1.4

WBP_Home v2.2.8.0

API Key:

Device Connect

Device Path

(3Eh)Read WatchBP Home Version

Send

UserID read

ID

DeviceTime

UserID write and Clear Memory

New ID

Device SN

SN:

Clear Usual

Device ID

ID:

Clear Diagnostic

BPM Setting 2

HI_infPressure

sent single memory data by index

Baud Rate

Measurement Setting

Batteryf

Measuremen Times

OffsetYear

Rest Time

MAPCorrection

Interval Time

Rx wakeup for connection

Exclude Average

SW_Afib

WBP UI

diagnostic mode results

Bluetooth function

Bluetooth UI

FactoryTest

CMD: 62

Device: 39

Data: BT014

Chapter 6 The description for each command of Demo App

6-1. Read WatchBP Home Version

The results of the data received are as follows

CMD: 62

Device: 39

Data: BT014

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

WatchBP Home Version, ref to 4-2-1 WBP_Home_Ver.

6-2. Clear memory and write ID

The result could be one of the following.

Write id and clear data success

Nack

6-3. Read ID

The results of the data received are as follows

Read ID:12345

The description is as follows

(a) Read ID:

User ID

6-4. Read the device time

The results of the data received are as follows

DeviceDateTime:2024/8/23 02:22:00

The description is as follows

(a) DeviceDateTime:

Device DateTime

6-5. Write the device time

The result could be one of the following.

NACK

Write TIme Success

6-6. Read usual mode memory

****Please refer to 4-1-2**

The results of the data received are as follows

			Sys	Dia	Hr	Arr
0	2023-01-01	01:01:00	120	80	60	noArr
1	2023-01-02	02:02:00	120	80	60	noArr

The description is as follows

(a) Date / Time:

Recode Date time

(b) Sys

The value of systole

(c) Dia:

The interval of the first measurement time zone

(d) Arr:

The data detect with Afib / PAD

6-7. Read diagnostic mode memory

****Please refer to 4-1-2**

The results of the data received are as follows

			Sys	Dia	Hr	Arr
0	2023-01-01	01:01:00	120	80	60	noArr
1	2023-01-02	02:02:00	120	80	60	noArr
average	Average		122	72	62	
average	Morning		122	72	62	
average	Evening		123	73	63	

The description is as follows

(a) Date / Time:

Recode Date time

(b) Sys

The value of systole

(c) Dia:

The interval of the first measurement time zone

(d) Arr:

The data detect with Afib / PAD

(e) Average:

calculate average by all data

(f) Average-Morning:

calculate average by data which measure time is during 4:00~11:59.

(g) Average-Evening:

calculate average by data which measure time is during 18:00~23:59.

6-8. Read BPM setting

The results of the data received are as follows

CMD: 240

Device: 39

Data:

MorAFrom: 5

MorATo: 12

EveAFrom: 18

EveATo: 24

DiagTimes: 2

WaitTime: 60

RESTTime: 60

WorkingDay: 7

MemorySet: 250

Setting1:

Linear_Or_Passive_Value: True

MeasureOnOffLine: False

O12h_Or_24h: False

AutoSendDataAfterMeasure: False

BeepOn_Or_BeepOff: True

WithEliminate1DayReading: True

Kpa: False

With_Or_Without_LabVIEW_RS232: False

Setting2:

ALL_AFIBOn_Or_AFIBOff: True

UsualMode_PADOn_Or_PADOff: False

UsualMode_AFIBOn_Or_AFIBOff: True

ALL_BeepOn_Or_BeepOff: False

ALL_PADOn_Or_PADOff: False

NocturnalModePAD: False

NocturnalModeAFIB: True

NocturnalMode: TrueNACK

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Please refer to 4-1-3

6-9. Read BPM setting 2

The results of the data received are as follows

CMD: 242

Device: 39

Data:

BaudRate: r9600

Batteryf: 4.9

Setting3:

MAPCorrection: False

RxWakeup: False

HomeAUI: True

HideDiagnosticModeResults: False

Bluetooth: True

Bluetooth_NewUI: True

FactoryTest: False

HI_infPressure: 0

OffsetYear: 23

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Please refer to 4-1-4

6-10. Read serial number

The results of the data received are as follows

CMD: 248

Device: 39

Data: 2021-11-0900006

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Device SN

6-11. Read memory index (usual mode)

The results of the data received are as follows

CMD: 72

Device: 39

Data:

Mode: 1

TotalMemoryIndex: 250

CurrentMemoryIndex: 250

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Memory index, Please refer to 4-1-5

6-12. Read single memory data by index (usual mode)

The results of the data received are as follows

CMD: 73

Device: 39

Data:

ID: 1
DateType: normal
MeasureDateTime: 2023-01-01 01:01:00
Systole: 120
Diastole: 80
Pulse: 60
Mam: 0
Comments: 0
Arr: noArr
Ampm: none
DayNight: none
DataType: usual
ErrMsg: none
MAP: 0
Err: null

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Memory index, Please refer to 4-1-2

6-13. Read device ID

The results of the data received are as follows

CMD: 250

Device: 39

Data: FAC591212208421

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Device ID

6-14. Read usual mode memory include each measurements

The results of the data received are as follows

Mode:0

History_Data_Number:250

MData

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Memory index, Please refer to 4-1-6

Mode:0																			
History_Data_Number:250																			
MData																			
			Sys_Avg	Dia_avg	Hr_avg	Afib	Type	Sys_1	Dia_1	Hr_1	AF1	Sys_2	Dia_2	Hr_2	AF2	Sys_3	Dia_3	Hr_3	AF3
0	2023-01-01	01:01:00	120	80	60	noArr	usual	120	80	60	True	115	75	55	False	125	85	65	False
1	2023-01-02	02:02:00	120	80	60	noArr	usual	120	80	60	False	115	75	55	True	125	85	65	False
2	2023-01-03	03:03:00	120	80	60	noArr	usual	120	80	60	True	115	75	55	True	125	85	65	False
3	2023-01-04	04:04:00	120	80	60	noArr	usual	120	80	60	False	115	75	55	False	125	85	65	True
4	2023-01-05	05:05:00	120	80	60	AFIB	usual	120	80	60	True	115	75	55	True	125	85	65	True
5	2023-01-06	06:06:00	120	80	60	noArr	usual	120	80	60	False	115	75	55	False	125	85	65	False
6	2023-01-07	07:07:00	120	80	60	noArr	usual	120	80	60	True	115	75	55	False	125	85	65	False
7	2023-01-08	08:08:00	120	80	60	noArr	usual	120	80	60	False	115	75	55	True	125	85	65	False
8	2023-01-09	09:09:00	120	80	60	noArr	usual	120	80	60	True	115	75	55	True	125	85	65	False
9	2023-01-10	10:10:00	121	81	61	AFIB	usual	121	81	61	True	116	76	56	True	126	86	66	True
10	2023-01-11	11:11:00	121	81	61	noArr	usual	121	81	61	True	116	76	56	False	126	86	66	True
11	2023-01-12	12:12:00	121	81	61	noArr	usual	121	81	61	False	116	76	56	False	126	86	66	False
12	2023-01-13	13:13:00	121	81	61	noArr	usual	121	81	61	True	116	76	56	False	126	86	66	False
13	2023-01-14	14:14:00	121	81	61	noArr	usual	121	81	61	False	116	76	56	True	126	86	66	False

6-15. Write measurement setting

The result could be one of the following.

Measurement setting Change Success

Nack

6-16. Read measurement setting

The results of the data received are as follows

CMD: 81

Device: 39

Data:

MeasurementTimes: 3

RestTime: Sec_30
IntervalTime: Sec_60
ExcludeAverage: False
SW_Afib: True

The description is as follows

(a)CMD:

Record the current command.

(b) Device:

Record the device.

(c) Data:

Memory index, Please refer to 4-1-7