

Quick Guide for Driver Heart Rate & Respiration Sensor

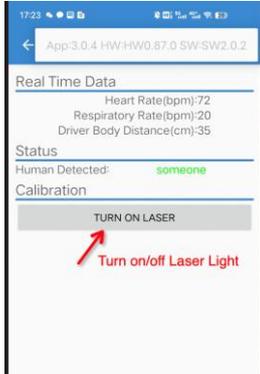
1. Server Installation:

CMSV Server Version must be **7.34.0.4 or newer**.

Test server can be used : <http://47.106.228.247/>

2. Configure Android App Installation

Install Link: <https://ble.ningiot.com/>



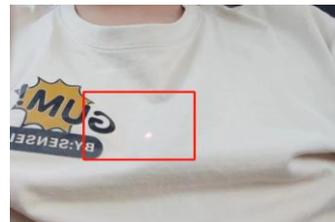
3. Indoor or In Cab Test must follow this angle for reference:



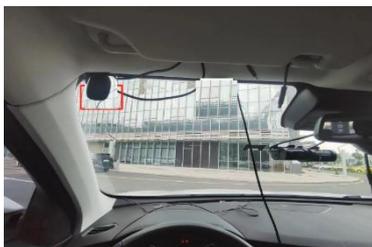
1) Close to Rear View Mirror



2) Infront of Driver



3) Close to A Column



4. Specification

Model	BM01A	BM01B
Power Supply	5V DC	9~32V DC
Communication Interface	Bluetooth BLE iBeacon & RS232 Interface	
Microwave Radar Frequency	60Ghz	
Antenna Quantity	1T3R	
Detection Mechanism	FMCW	
Detection Range	0.4~ 1.5 meter	
Initialization Time	3minutes	
Human Leaving Detection Time	30 seconds	
Respiration Rate Accuracy	90%	
Respiration Rate Range	0~35 times/minute	
Breath Rate Accuracy	95%	
Breath Rate Range	60~100 times/minute	
Data Fresh Frequency	1~30s	
Working Temperature	-20~60°C	
Power Consumption	0.84mA @12V DC	

5. Cable Definition

RED	Power Supply, 9~32V DC
BLACK	Power GROUND
YELLOW	RS232_TX
WHITE	RS232_RX

6. How to Install in vehicle and test in mobile APP ?

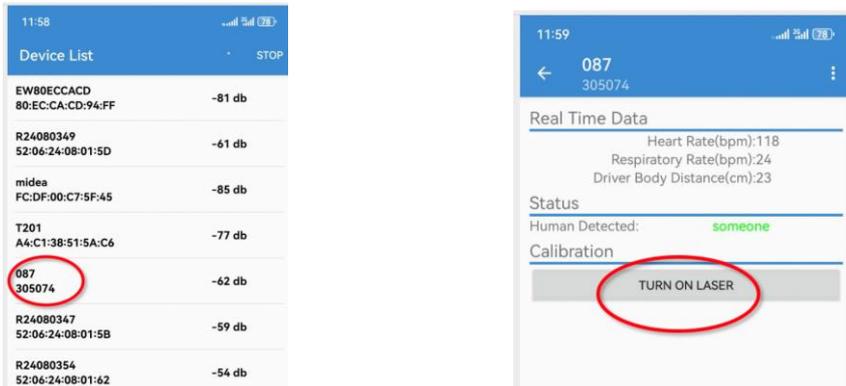
- 1) Install on windscreen with adhesive sticker



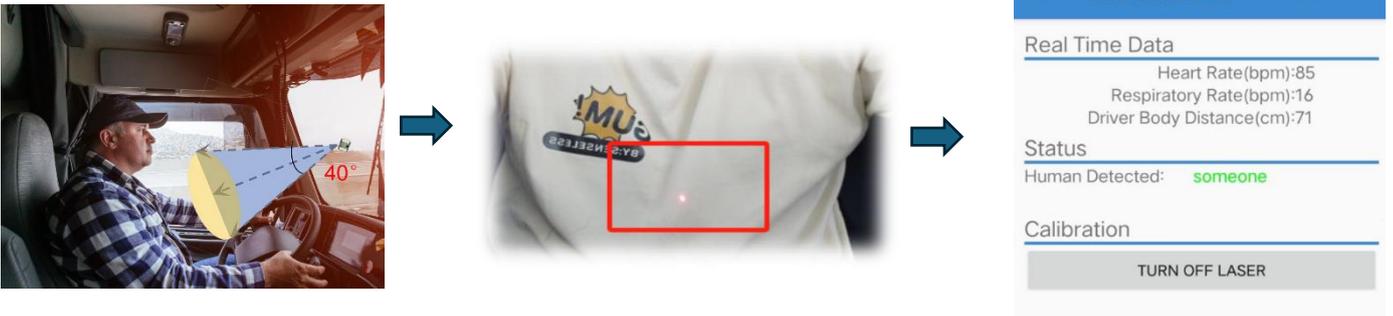
- 2) Power on the sensor with 9~32V DC for 3 minutes to complete initialization.



- Install the calibration mobile app and connect the sensor
Please search and find 087 in the Bluetooth device list, and then connect it.



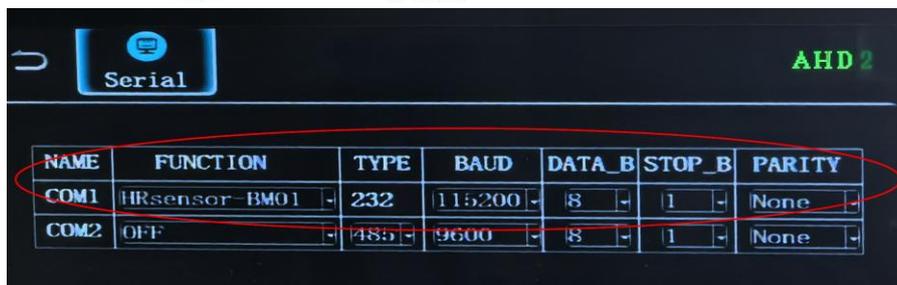
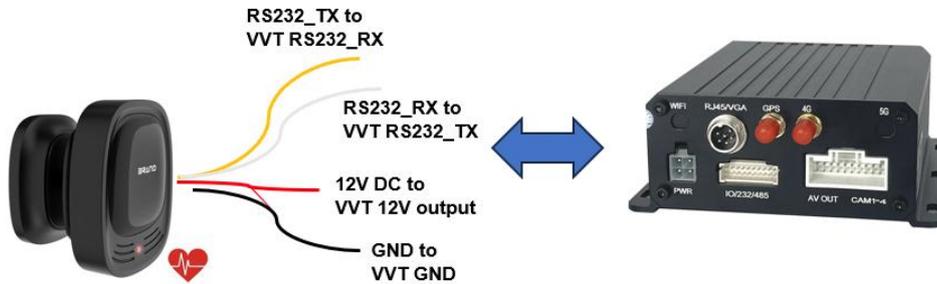
- Press "TURN ON LASER" to enable laser light to point heart and then fix the bracket with screw after reading a proper data in 3 minutes.

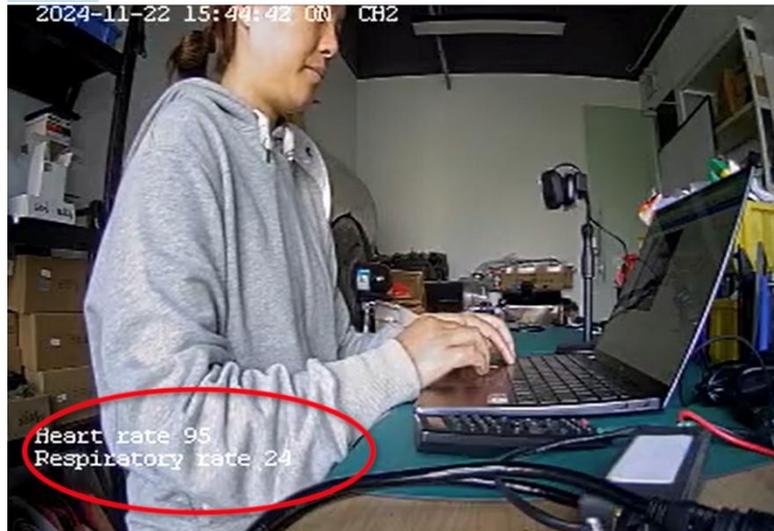


- Press button "TURN OFF LASER" to disable the laser light.

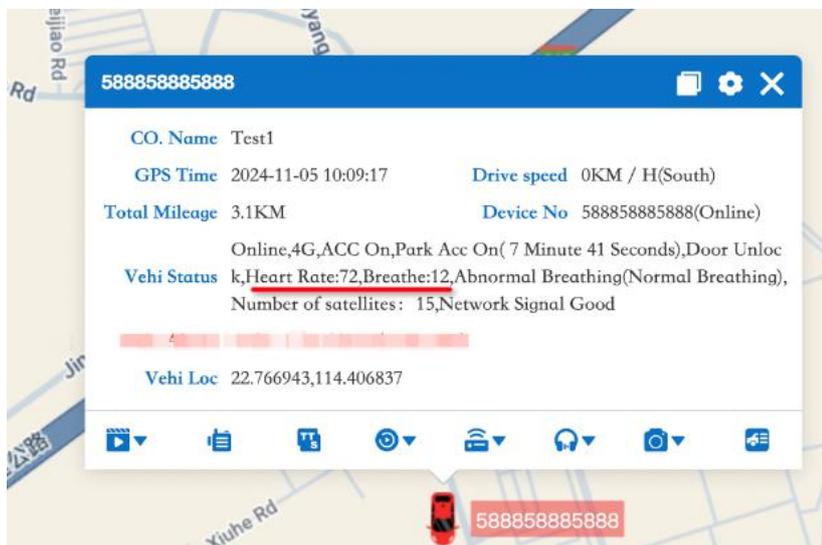
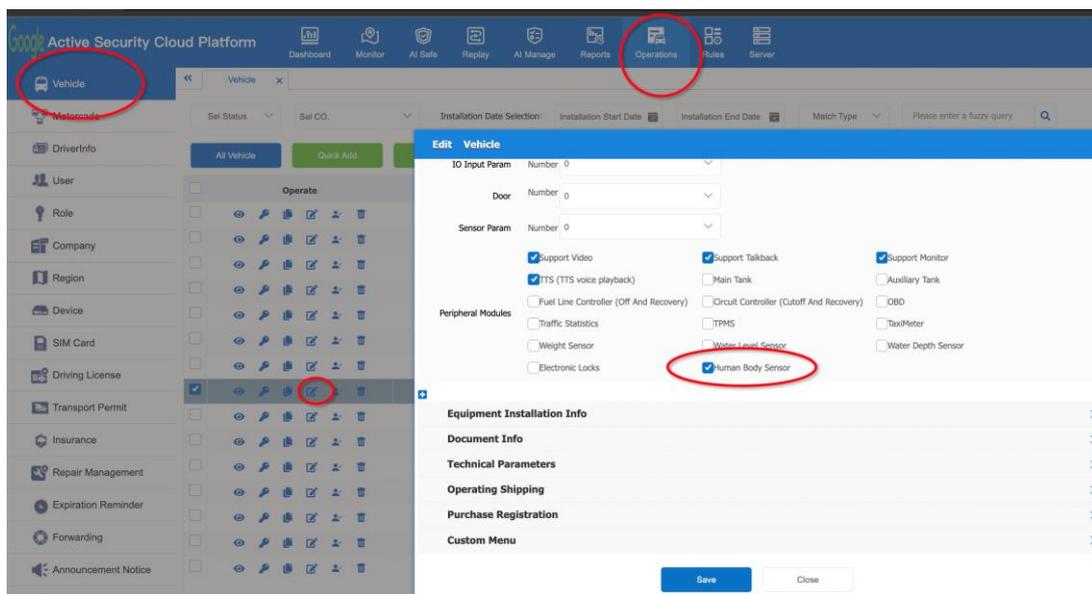
7. How to test in CMSV6 with 4G Mobile DVR

- Make sure the 5CH AI VVT has latest **new Firmware** that supports Heart Rate Sensor and OTA if necessary
- Connect the Heart Rate sensor to RS232 interface and configure in the DVR serial port as below, then you can see OSD in screen





3) Configure the CMSV6 platform as below and then you can see bubble data in map



4) Playback and see history report of Driver Heart Rate and & Respiration data

The screenshot displays the Google Active Security Cloud Platform interface. The top navigation bar includes options like Dashboard, Map, Video, Safety Monitor, Track, Record, and Manage. The main content area shows a 'Detailed Report Human Body Dynamics' for a specific vehicle (500850085008) on 2024-10-28. The report includes a line graph showing Heart Rate (blue) and Breathe (green) over time, and a table with columns for Index, Plate NO., Company, Plate Color, Time, Breathe, Heart Rate, Mileage(KM), and Current Position.

Index	Plate NO.	Company	Plate Color	Time	Breathe	Heart Rate	Mileage(KM)	Current Position
1	500850085008	Test1	Black Label	2024-10-28 15:44:22			9.1	22.599273,113.864490
2	500850085008	Test1	Black Label	2024-10-28 15:44:27			9.1	22.599273,113.864490
3	500850085008	Test1	Black Label	2024-10-28 15:44:47			9.1	22.599273,113.864490
4	500850085008	Test1	Black Label	2024-10-28 15:45:07			9.1	22.599273,113.864490
5	500850085008	Test1	Black Label	2024-10-28 15:45:23	0	0	9.1	22.599273,113.864490
6	500850085008	Test1	Black Label	2024-10-28 15:45:28	0	0	9.1	22.599273,113.864490

Below the report, there is a 'Playback' section with a map showing the vehicle's route. The map includes a 'Peripheral' dropdown menu with 'Human Body' selected. The playback interface also shows a 'Track' button and a 'Safety Track' section.

8. How to test with Teltonika GPS tracker via Bluetooth

The screenshot shows the Teltonika software interface. The left sidebar contains various settings categories, with 'Bluetooth 4.0' highlighted. The main content area displays the 'Settings' page for 'Common settings'. The 'Non Stop Scan' option is set to 'Enable'. Other settings include 'Sensors and Beacons Update frequency' (30), 'BLE Scan duration' (5), and 'Scan retries until error' (30). The 'BT Power Level' is set to 7. The 'BLE broadcasting service ID' and 'BLE connection control' (set to 'Allow') are also visible.

Teltonika Configurator 1.7.22 B.3.27 R.21

Load from device | Save to device | Update firmware | Reset configuration
 Load from file | Save to file | Read records | Reboot device

IMEI 359633107969045
 FW 03.25.15 Rev01
 Configuration 6.1.14.0

BLE connectionless functionalities

Connection #1

Mode: Working mode: Disabled | TZ: B104/05/05B sensor | Advanced

Settings: MAC: 84C2E4DCEB4D **same as sensor MAC**

1st Sensor

Heart beat parameter

Filter	Data Offset	Data Size	Action	I/O	Match	Endianness	Multplier	Offset
FF	6	1	Save	Fuel		Big Endian	1	0
FF	7	1	Save	Humidity		Big Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	2
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0
	0	0	Match	None		Little Endian	1	0

Respiratory parameter

Teltonika Configurator 1.7.22 B.3.27 R.21

Load from device | Save to device | Update firmware | Reset configuration
 Load from file | Save to file | Read records | Reboot device

IMEI 359633107969045
 FW 03.25.15 Rev01
 Configuration 6.1.14.0

Device Info

Device Name: FMB125 | Last Start Time: 2004/1/1 8:00:32 | Power Voltage: 14154 mV | Ext Storage (used/total): 9 / 122 MB | Battery Voltage: 0 mV

Firmware Version: 03.25.15 Rev01 | RTC Time: 2004/1/1 8:31:28 | Device IMEI: 359633107969045 | Device Uptime: 00:30:56 | Internal Battery Status: Not Charging 0%

GNSS Info | GSM Info | **I/O Info** | Beacon Info | Maintenance

I/O Data

LLS 2 Temperature: 0 °C	LLS 3 Temperature: 0 °C	LLS 4 Temperature: 0 °C
LLS 5 Temperature: 0 °C	Eco Score: 0	User ID: 0x0000000000000000
BLE Temperature #1: 0 °C	BLE Temperature #2: 0 °C	BLE Temperature #3: 0 °C
BLE Temperature #4: 0 °C	BLE Battery #1: 0 %	BLE Battery #2: 0 %
BLE Battery #3: 0 %	BLE Battery #4: 0 %	BLE Humidity #1: 23 %RH
BLE Humidity #2: 0 %RH	BLE Humidity #3: 0 %RH	BLE Humidity #4: 0 %RH
BLE 1 Custom 1	BLE 2 Custom 1	BLE 3 Custom 1
BLE 4 Custom 1	BLE Fuel Level #1: 84 kvants	BLE Fuel Level #2: 0 kvants
BLE Fuel Level #3: 0 kvants	BLE Fuel Level #4: 0 kvants	BLE Luminosity #1: 0 lx
BLE Luminosity #2: 0 lx	BLE Luminosity #3: 0 lx	BLE Luminosity #4: 0 lx

Respiratory data

Heart data