

OPERATION DESCRIPTION

1. Name

1.1	Trade Name:	GluNEO Pet
1.2	Model Name:	OG-SH02-PEM

2. Overview

The proposed GluNEO Pet Blood Glucose Monitoring System consist of a meter, test strips, control solution(Low, Medium and high), a lancing device(option) and a sterile Lancet(option). This blood glucose monitoring system is an in vitro diagnostic device designed for measuring the concentration of glucose in blood by means of an electrical current produced in the test strip and sent to the meter for measurement.

3. Intended for use

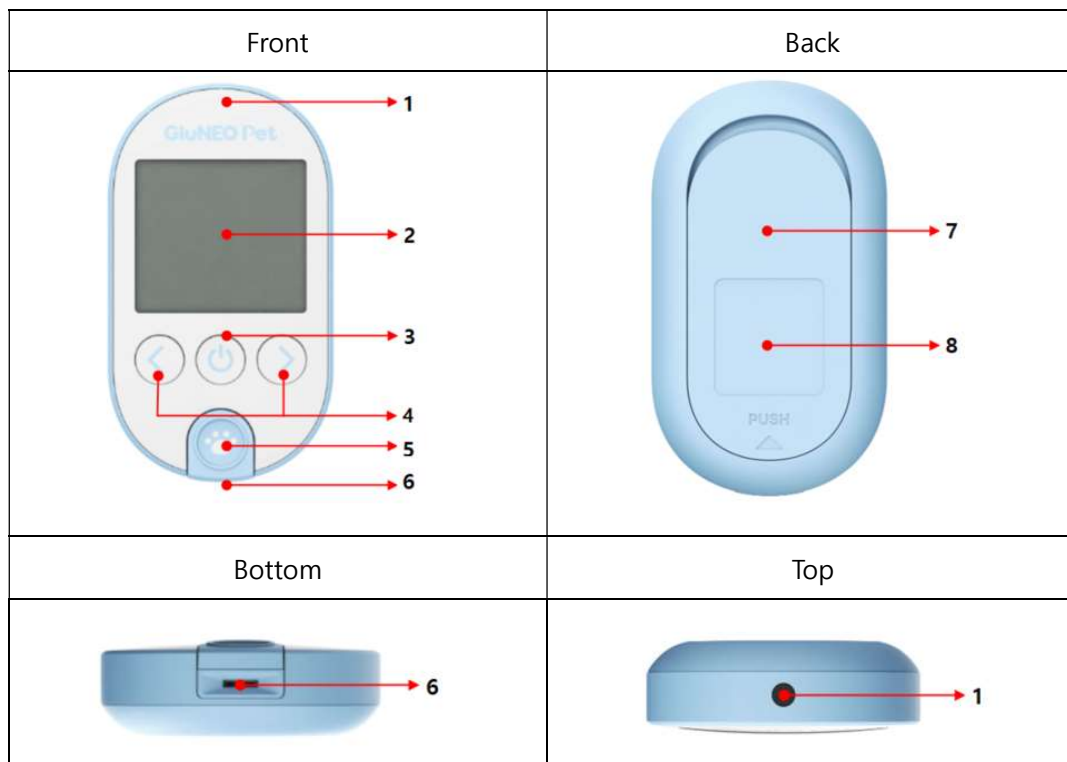
The GluNEO Pet Blood Glucose Monitoring System is intended for home use to monitor blood glucose levels in dogs and cats.

It is designed for quantitative measurements of glucose levels in fresh capillary whole blood samples obtained from the marginal ear vein or paw pad.

Additionally, veterinarians and veterinary surgeons may use the GluNEO Pet Blood Glucose Monitoring System for quantitative glucose measurements in venous whole blood samples when managing diabetes in cats and dogs.

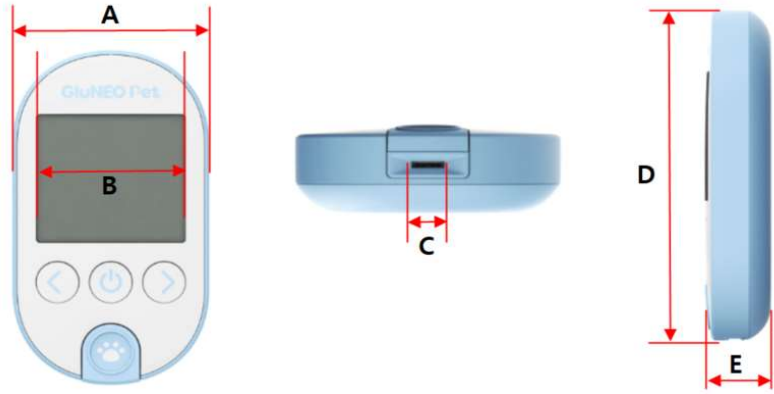
4. Detailed description of each component

4.1 Shape and Structure of the Meter(OG-SH02-PEM)

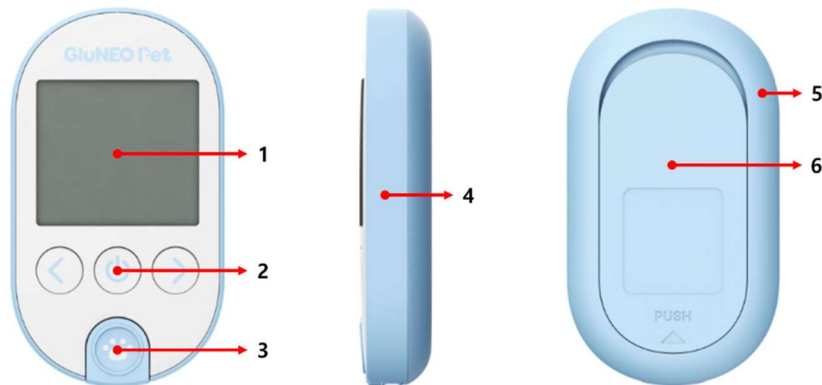


	Name	Functions
1	Data Communication Port	A port that transmits measured values when communicating with a PC.
2	LCD Screen	This is where you read your test results and other important information.
3	Mode Button	It is the operating button for designating the setting mode of which the function is to enter and exit the memory mode.
4	UP / Down Button	These buttons are for recalling the memory saved and are used to enter the setting mode and change the mode.
5	Ejector	After checking test result, slide the ejector button forward to remove the test strip from the meter.
6	Strip Port and Photo Sensor	This is where you insert the test strip into the strip port. When the strip is inserted, The meter estimates the color value and matches the strip code by the photo sensor.
7	Battery Cover	Insert or remove the battery.
8	Label	Display meter information.

4.2 Dimension of the Meter (OG-SH02-PEM)

Appearance					
	Dimensions (mm)				
	A	B (LCD)	C (blood inlet)	D	E
	51±1	38±0.1	6	89±1	17±1
					Weight (g)
					48±1g (Including Batteries)

4.3 Material

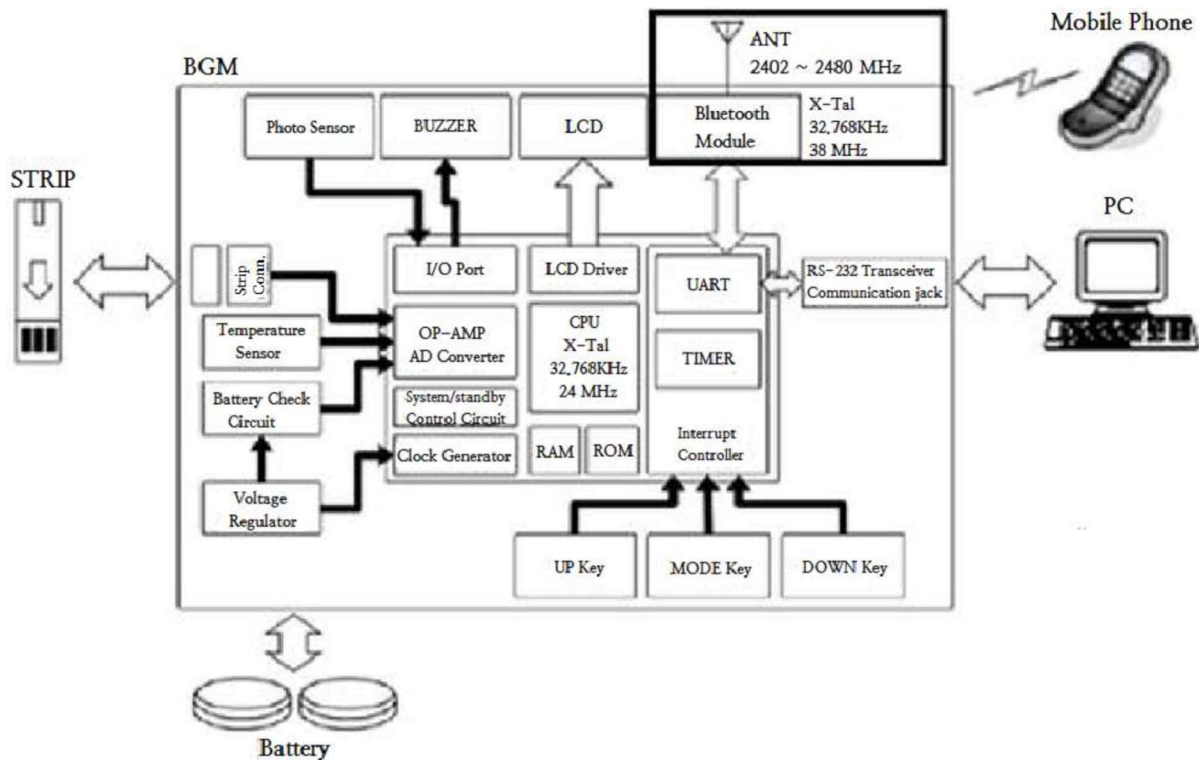


No.	Name	Raw material	Texture	Color
1	Window LCD	PMMA ¹⁾	Transparent and smooth surface	Transparent
2	Mode/Up/Down Button	ABS ²⁾	Non-Etched (gloss)	White
3	Slide Knob	ABS	Spray painted and smooth surface	Light Blue
4	Front Case	ABS	Spray painted and smooth surface	Light Blue
5	Rear Case	ABS	Spray painted and smooth surface	Light Blue
6	Battery Cover	ABS	Spray painted and smooth surface	Light Blue

1) PMMA - Poly (methyl methacrylate)

2) ABS - Acrylonitrile butadiene styrene

4.4 Principles of Operation



1) Circuitry of analog sensor

When the blood reaches the electrode, sensor electric current is created. Then the current passes through the micro controller converting and filtering it to a digital form. The information is then delivered by the controller to the memory. The communication unit then displays the test result on the LCD window.

2) Control buttons

By operating control buttons, the meter recalls, stores, and/or modifies the information such as time and unit, and enters the communication mode.

3) Micro-Controller Unit (MCU)

The MCU unit converts the information received from the analog sensor into a digital format then it is sent to the LCD window as the data displays.

4) Memory

The memory unit stores information which is sent by the Micro-Controller Unit.

5) LCD Display

The LCD window displays information that is sent from the memory unit or changed data.

6) Automatic code recognition

When the test strip is inserted, the meter reads the color area of the test strip by the photo sensor. The meter estimates the color value and identifies the test strip code. If there is no

matched code, the meter displays the error message. If not, the meter displays the code on LCD.

7) Ejector

After checking test result, slide the ejector button forward to remove the test strip from the meter.

8) Buzzer

Buzzer sounds when the test strip or blood is inserted. Also, buzzer sounds when an error occurs.

9) Bluetooth Low-Energy Unit

This unit stores information and capable to transmit these information to mobile phone or PC. It has BLE module.

10) RS232 unit and USB(option)

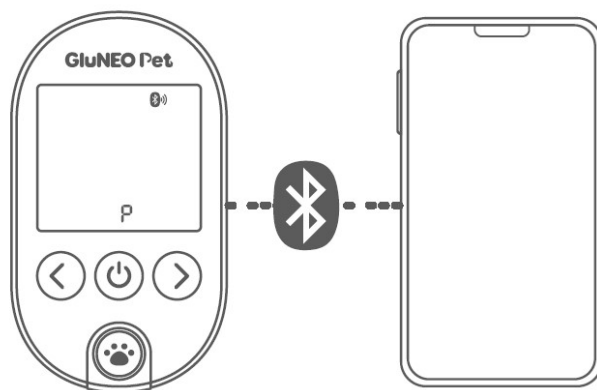
This unit stores information and transmits it to a personal computer (PC).

5. Operation procedures

5.1 How to use the GluNEO Pet meter

- (1) Insert a test strip into the meter. At this time, make sure that the contact terminal of the test strip is facing upward and insert it all the way.
- (2) When the test strip is inserted, the screen turns on and the calibration code is displayed. When the calibration code disappears and the blood injection symbol flashes, species(dog or cat) is displayed.
- (3) If press and hold the right button for 3 seconds, the species to be tested will change with "beep" sound. Then, collect blood from the test site.
- (4) Place the blood collection site close to the blood inlet so that the collected blood flows into the blood inlet on the test strip. Do not remove the blood collection site until you hear a "beep" sound.
- (5) While measuring, the screen shows a 5second countdown and then it displays the results of the glucose level.
- (6) After checking test result, slide the ejector button forward to remove the test strip from the meter.
- (7) When the strip is removed from the meter, the meter turn off automatically.

5.2 How to use Bluetooth Communication



GluNEO Pet meter can be connected wirelessly to mobile devices with Bluetooth communication function. Your mobile device must have an application that can receive data.



[fig #1]



[fig #2]

STEP 1– Opening app

Launch the application on your mobile device.

If Bluetooth function or Bluetooth icon is already activated on the LCD's first screen of your mobile device, please move on to the next step.

STEP 2 – Pairing

With the application open on your mobile device, Press the Left (<) button on your meter. The LCD window will display the “P” and the Bluetooth icon. The meter will begin to transfer Bluetooth signal to your mobile device. It shows that the meter is pairing with the mobile device. (fig #1)

STEP 3 – Sending the Test Data

When the meter is connected and with your mobile phone, the LCD window will display “C” which confirms the paired status. The test results from your meter will begin the transfer to your mobile device. (fig #2)

The meter can transfer the glucose test result data to external mobile device via Bluetooth wireless technology. Once the data has been transferred, you will see your last test result on app.

STEP 4 – Done (Sleep Mode)

Pressing the center/power button, the meter enters sleep mode and LCD display will turn off

6. Important notices

- (1) The GluNEO Pet Blood Glucose Monitoring System should be used for in vitro diagnostics and should not be used for diagnosis of diabetes.
- (2) Before using the GluNEO Pet Blood Glucose Monitoring System, you must read and understand the user manual.

Inadequate blood glucose measurements and inaccurate measurement results can lead to adverse effects, such as the progression of the disease owing to delayed treatment.
- (3) The GluNEO Pet Blood Glucose Monitoring System is for pet use and cannot be used on humans.
- (4) If you think your blood glucose test result is abnormally low or high, or if you feel that the result is inaccurate, take another blood glucose test with a new test strip.
- (5) If you have followed all instructions in the instruction for use and your blood glucose measurement results continue to be abnormal, contact your veterinarian.
- (6) Keep all contents of the package out of the reach of children.

Swallowing small parts in the package may be a choking hazard for children.
- (7) Any part that comes into contact with blood should be considered biohazardous and can potentially transmit infectious diseases even after washing. To reduce the possibility of infection, please be aware of the following:
 - The meter and lancing device must be disinfected before use.
 - Test strips and disposable manual lancets are for single use only and reuse is prohibited.
 - Test strips and disposable manual lancets must be disposed of safely after use.
 - Avoid getting hand lotion, oil, dirt or debris on the meter, lancing device, and disposable manual lancets.

7. Specifications

7.1 Device Specification

Part	Specification
Model Name	OG-SH02-PEM
Sample type	Fresh capillary whole blood and venous whole blood
Sample volume	0.5uL
Test Range	20 ~ 600 mg/dL / 1.1 – 33.3 mmol/L
Reading time	5 seconds
Hematocrit	20 ~ 65%
Operating Temperature	10~40°C(50~104°F)
Operating Humidity	10 ~ 90%
Strip storage temperature	2-30°C(36 - 86 °F)
Display Type	LCD
Memory capacity	1,000 test results
Dimension	51×89×17(mm) (W x H x D)
Weight	48±1 g (Including Batteries)
Power Source	3V Lithium Battery 2 EA (CR2032)
Data communication	Bluetooth (Bluetooth Low Energy)

7.2 Bluetooth Specification

Part	Specification
Bluetooth Spec.	Bluetooth Specification 4.2 Support
Type of modulation	GFSK (Bluetooth LE)
Frequency Range	2402 MHz ~ 2480 MHz
Sensitivity	-92.5 dBm
Transmit Power	-2.20 dBm
Input power	DC 3.0V
RF output power	Under 10 mW
Antenna	PCB Antenna