# ıɪɪɪ**iGlucose®***Essential*

# User Manual



## Blood Glucose Meter

**SMART**METER
Engaging Health Data

Number:
Date:

# ᯤᯤᯤ**iGlucose®***Essential*

## SMBGM-TMB-2282-G
## Blood Glucose Monitoring System

Dear  iGlucose®Essential System User,

Thank you for choosing  the iGlucose®Essential Blood Glucose Monitoring System!  iGlucose®Essential Blood Glucose Monitoring System is designed for easy testing of blood glucose and helps you keep your blood glucose under control.

Read this User Manual carefully before you use your meter system. This manual will help you to get comfortable using the iGlucose®Essential Blood Glucose Monitoring System and get reliable test results. Please keep your User Manual in a safe place; you may want to refer it in the future.

Thank you again for choosing the iGlucose®Essential System.

### Intended Use

iGlucose®Essential Blood Glucose Monitoring System is comprised of the iGlucose®Essential Blood Glucose Meter and the iGlucose®Essential Blood Glucose Test Strips. iGlucose®Essential Blood Glucose Monitoring System is intended to quantitatively measure the glucose concentration in fresh capillary whole blood samples drawn from the fingertips. It is intended for use by persons with diabetes at home as an aid to monitor the effectiveness of diabetes control. It is not intended for neonatal use or for the diagnosis of or screening for diabetes. This system is intended for self-testing outside the body (in vitro diagnostic use), and should only be used by a single person and should not be shared.

### Principle of Operation

iGlucose®Essential Blood Glucose Monitoring System is designed to quantitatively measure the glucose concentration in fresh capillary whole blood. The glucose measurement is achieved by using the amperometric detection method. The test is based on measurement of electrical current caused by the reaction of the glucose with the reagents on the electrode of the test strip. The blood sample is pulled into the tip of the test strip through capillary action. Glucose in the sample reacts with glucose oxidase and the mediator. Electrons are generated, producing a current that is positive correlation to the glucose concentration in the sample. After the reaction time, the glucose concentration in the sample is displayed.

# TABLE OF CONTENTS

# SECTION 1: UNDERSTANDING YOUR TESTING TOOLS

## Your System Overview

Test strip port

Sample tip:
Where the blood is drawn in.

Micro USB:
Charging port.

Display:
Shows test results.
and related
information

Button:
Press to turn meter
on/off

Switch different
function
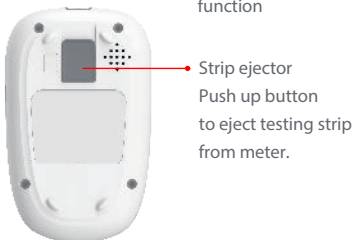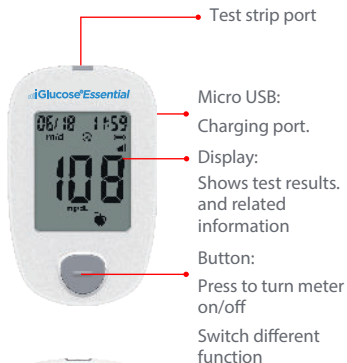
Electrode end:
This end is inserted into the strip port on the meter, facing upwards, in the direction of the arrows.

Strip ejector
Push up button
to eject testing strip
from meter.

Lancets
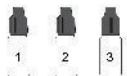
Lancing Device

Blood Glucose Meter     Blood Glucose Test strip     Control Solution

Note: The iGlucose®Essential Blood Glucose Test Strips, iGlucose®Essential Control Solution, iGlucose®Essential Lancing Device and iGlucose®Essential Lancets are not included in the meter box but are necessary for use, please contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267.

Please contact your healthcare provider for assistance after normal business hours

## Your Meter Display

The picture below shows all the symbols that appear on your meter display.

Please make sure the display is working properly before testing. When the meter is off, press and hold ⬤ to see the complete display. All display segments will appear. If you need more time to check the display, repeat the above steps.

All display segments should be clear and exactly like the picture below. If not, contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267 for help. Please contact your healthcare provider for assistance after normal business hours.
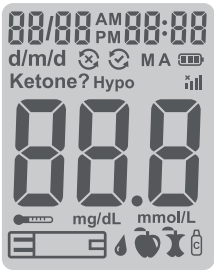


| Icon | What It Means |
|------|---------------|
| 88/88 | The top left area on the screen indicates date. |
| 88:88 | The top right area on the screen indicates year or time. |
| AM PM | The top middle area on the screen indicates morning or afternoon time. |
| d/m/d | Indicates the display form of day and month (d/m) or month and day (m/d). |
| ⊘ | Data transmitted successfully. |
| ⊗ | Data not transmitted. |
| M | Indicates test result history. |
| A | Indicates average value. |
| ▭▭▭ | Indicates the battery level. |
| Ketone? | It recommends performing a ketone measurement based on the high glucose test result (≥ 300mg/dL) obtained from this meter. |

| | |
|---|---|
| **Hypo** | The low glucose test result may indicate hypoglycemia. |
| ▮▮▮▮ | Signal strength. |
| 88.8 | Center area on the display that shows test results or error codes. |
| ●▭▭▭ | Indicates the temperature is not suitable for testing. |
| **mg/dL** | Test results are displayed as mg/dL. |
| ▭▭▭◗ | When strip is inserted, the drop will flash, indicating the system is ready to test. |
| 🍎 | Pre-meal marker. |
| 🍎 | Post-meal marker. |
| Ⓒ | Control test result. |

Notes:
Your iGlucose®Essential Meter is preset with beep sound function, the meter will beep when:

- Turning on the meter.
- When setting the date and time (in set-up mode).
- When the test strip is inserted and ready for application of blood or control solution.
- When sufficient blood or control solution is pulled into the test strip.
- When the test is complete.
- If any error occurs during operation.

## Meter Use and Precautions

- The meter displays blood glucose concentration in milligrams per deciliter (mg/dL) only.
- The meter will shut off by itself after 2 minutes of inactivity.
- Refer to the Cleaning and Disinfection section to keep the entire meter clean. Keep your meter in the temperature range 41-113°F and relative humidity range 10-90%. Do not leave it in your car.
- Do not drop the meter or get it wet. If you do drop the meter or get it wet, check the meter by running a quality control test. Refer to Testing with Control Solution for instructions.
- Do not use the meter if it drops into water or other liquids or water has splashed on it..
- You should use the meter only as described in this user manual. Any use of the meter beyond the scope of instructions in this user manual may impair the normal operation of the meter and battery.
- Do not transfer the test strips to a new vial or any other container.
- Do not drop the blood on the test strip. The blood is pulled into the tip of the test strip through capillary action:

- Check the expiration dates and discard dates on your test strips vial label and control solution vial label.
- Use only iGlucose®Essential Blood Glucose Test Strip with your iGlucose®Essential Blood Glucose Meter.
- Use only iGlucose®Essential Control Solution with your iGlucose®Essential Blood Glucose Meter and iGlucose®Essential Blood Glucose Test Strip.
- Keep the meter and all associated parts out of reach of children.
- Wash and dry your hands well before and after testing.

## Important Safety Information

- The meter and lancing device are for single patient use. Do not share them with anyone including other family members! Do not use on multiple patients.
- All parts of the kit are considered biohazardous and can potentially transmit infectious diseases, even after you have performed cleaning and disinfection.
- For more information, please refer to the FDA Public Health Notification: "Use of Fingerstick Devices on More than One Person Poses Risk for Transmitting Bloodborne Pathogens: Initial Communication" (2010) at:
  https://wayback.archive-it.org/7993/20170111013014/http:/www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm224025.htm
  You may also refer to the "CDC Clinical Reminder: Use of Fingerstick Devices on More than One Person Poses Risk for Transmitting Bloodborne Pathogens" (2010) at
  http://www.cdc.gov/injectionsafety/Fingerstick-DevicesBGM.html.
- Do not alter your blood glucose management or treatment without first consulting your doctor or healthcare professional.
- Refer to the Cleaning and Disinfection section for details on cleaning and disinfecting the meter.
- Follow proper precautions and all local regulations when disposing of the meter.

## Limitations

- Not for use on critically ill patients, severely hypotensive individuals, patients in shock, dehydrated patients, or in a hyperglycemic-hyperosmolar state with or without ketosis.
- Do not test your blood glucose during or soon after a xylose absorption test. Xylose in the blood can give inaccurate results with this meter.
- Not for neonatal use.
- Not for screening for or diagnosis of diabetes mellitus.

- Do not use the system above 10,413 ft (3,174 meters) in altitude.
- This meter is not intended for use in healthcare or assisted-use settings such as hospitals, physician offices, or long-term care facilities because it has not been cleared by FDA for use in these settings, including for routine assisted testing or as part of glycemic control procedures. Use of this meter on multiple patients may lead to transmission of Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), or other bloodborne pathogens.

Before using your meter for the first time, make sure to set up your meter properly.

## Set the Date and Time

1. Enter the setting mode and set the clock

When the meter is off, press and hold ⬤ until the meter beeps to enter the set-up mode. Then set the clock for either 24- or 12-hour mode. Press ⬤ to adjust it then press and hold ⬤ to save your choice. Start setting the year, month and day.

2. Set the date

The year will now flash. Press ⬤ to adjust it, then press and hold ⬤ until the meter beeps to set, then it will shift to the next digit for setting. Repeat the above action until the year setting is completed.

The display form of day and month will now flash, press ⬤ to set the display form to m/d or d/m mode, press and hold ⬤ until the meter beeps to set.

The meter will prompt you to set the month.
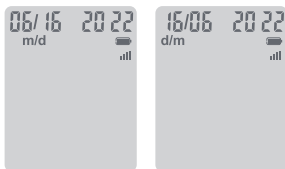
The month will now flash, press ◉ to adjust the month, press and hold ◉ until the meter beeps to set.

| 06/16 2022 | /16 2022 |
| m/d | m/d |

The day will now flash. Press ◉ to adjust the day, press and hold ◉ until the meter beeps to set, then it will shift to the next digit for setting.

| 06/16 2022 | 06/ 2022 |
| m/d | m/d |

3. Set the time

After the date setting is completed. Press ◉ to adjust the current hour, press and hold ◉ until the meter beeps to set, then it will shift to the next digit for setting.

| 06/16 13:28 | 06/16 :28 |
| m/d | m/d |
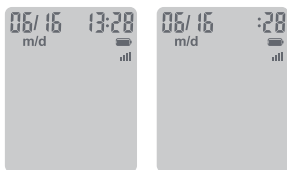
The minute will now flash. Press ◉ to adjust the minute, press and hold ◉ to set.

| 06/16 PM 13:28 | 06/16 PM 13: |
| m/d | m/d |
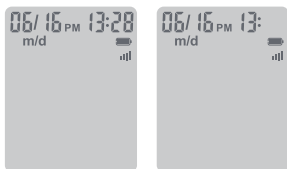
Note:
• Before your first use of the meter for testing, please adjust the meter settings to set the correct date and time, ensuring that results stored in the memory are shown with the correct date and time.

## Set the Audio Feature

After you set the time, press ⬤ to select "On" or "OFF". Press and hold ⬤ to set.



## Set the Meal Marker

After setting the audio feature, the symbols of 🍎🍴 will now flash, along with the word "On" or "OFF" on the display. Press ⬤ to adjust to turn the meal marker function on or off, press and hold ⬤ to set.



## Set the Hypoglycemia (Hypo) Warning

After you have confirmed the meal marker setting, the **Hypo** flashes on the display along with "On" or "OFF" on the display. Press ⬤ button to turn the Hypo alarm function on or off, then press and hold ⬤ button to set. If you select the Hypo alarm to be "On", the display shows 70 mg/dL as default. Press ⬤ button once to adjust blood glucose level (the level increases by 1 mg/dL). You can adjust the range from 60 to 80 mg/dL.
Press and hold ⬤ button to confirm.

Notes:

- Hypo Alarm (Warning) is a reminder displayed on the meter for the user that the measured glucose level is equal or less than a settable glucose value that has been recommended by your healthcare professional.
- You can set the Hypo Alarm to let you know when your blood glucose is possibly too low. If you select the Hypo Alarm to be "On", the "Hypo" warning will appear when your blood glucose test result is below your setting blood glucose level. Please talk to your healthcare professional to help you decide and set the blood glucose level that suits your physical condition.

## Set the Ketone Warning

The icon is to provide a "high glucose" alarm that recommends performing a ketone measurement. However, the icon does not mean this meter measures ketones.

After the hypo warning setting is completed, the **Ketone?** symbol will now flash, along with word "On" or "OFF" on the display. Press ⬤ button to turn the Ketone Warning on or off; press and hold ⬤ to set.
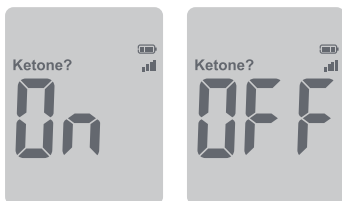


Now you have completed your meter set up. Power ⬤ button for 5 seconds when a symbol of a flashing strip appears letting you know the meter is ready to test.



Once all the settings are completed, if you want to change the setting, please press and hold the power ⬤ button for 5 seconds when the meter is powered off and then to return to the set-up mode.

Set up your meter correctly and have all the materials you will need ready before you begin testing. This includes your iGlucose®Essential Blood Glucose Meter, iGlucose®Essential Blood Glucose Test Strips, and iGlucose®Essential lancing device and lancets.

## Preparing the Test Strip

1. Wash and dry your hands and the test site well.
2. Remove a test strip from the test strip vial. Tightly close the vial cap immediately after you have removed the test strip.
3. Insert the test strip into the meter in the direction of the arrows. The meter will turn on after the beep.
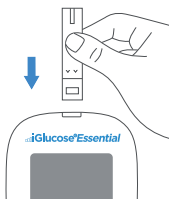


4. A symbol with a flashing blood drop will appear letting you know the meter is ready to test.



Note:

Check the expiration and discard dates on the test strip vial. All expiration dates are printed in Year-Month-Day format. 2023-01-01 indicates 1st, January, 2023. Your iGlucose®Essential test strips have a 6-month shelf life  after you first open the test strip vial. Write the discard date on the vial label when you first open it. Make sure the test strip does not appear damaged. Prior to testing, wipe the test site with an alcohol swab or soapy water. Use warm water to wash hands to increase blood flow if necessary. Then dry your hands and the test site thoroughly. Make sure there is no cream or lotion on the test site.

## Preparing the Lancing Device

For fingertip sampling, adjust the depth penetration to reduce the discomfort. You do not need the clear cap for fingertip sampling.

1. Unscrew the lancing device cover from the body of the lancing device. Insert a sterile lancet into the lancing device and push it until the lancet comes to a complete stop in the lancing device.
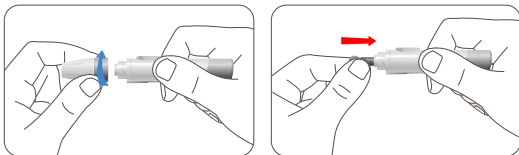


Note : The iGlucose®Essential lancing device uses ONLY iGlucose®Essential sterile lancets.

2. Hold the lancet firmly in the lancing device and twist the safety tab of the lancet until it loosens, then pull the safety tab off the lancet. Save the safety tab for disposing the used lancet.
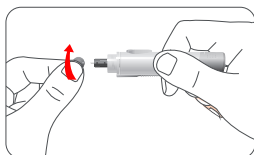


3. Carefully screw the cover back onto the lancing device. Avoid contact with the exposed lancet. Make sure the cover is fully sealed on the lancing device.
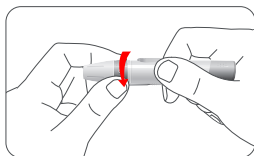


4. Adjust the puncture depth by rotating the lancing device cover. There are 5 puncture depth settings. To reduce discomfort, use the lowest setting that still produces an adequate drop of blood.
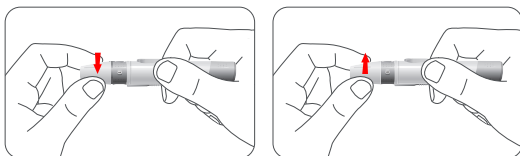
Adjustment:

| | |
|---|---|
| 1 | for delicate skin |
| 2 and 3 | for normal skin |
| 4 and 5 | for calloused or thick skin |

Note: Greater pressure of the lancing device against the puncture site will also increase the puncture depth.

## Getting a Blood Drop for Testing

1. Pull the cocking barrel back to set the lancing device. You may hear a click to indicate the lancing device is now loaded and ready for obtaining a drop of blood.
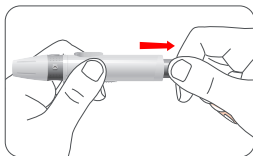


2. Press the lancing device against the side of the finger to be lanced with the cover resting on the finger. Push the release button to prick your fingertip. You should hear a click as the lancing device activates.
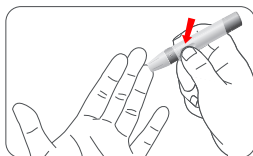


3. Remove the first drop of blood with a clean paper towel to ensure a more accurate result. Gently massage from the base of the finger to the tip of the finger to obtain the required blood volume (half the size of a match head). Avoid smearing the drop of blood. For the greatest reduction in pain, lance on the side of the fingertip. Test immediately after a good blood drop has formed.
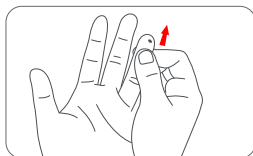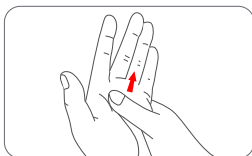


4. Immediately touch the tip of the test strip to the drop of blood. The blood will be pulled into the test strip through the tip. Make sure that the blood sample has fully filled the check window of the tip of the strip. Hold the tip of the test strip in the blood drop until the meter beeps.
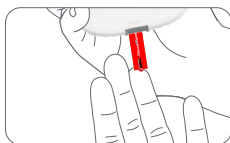
Note: If the blood sample does not fill the check window, do not add a second drop. Discard the test strip and start over with a new test strip.

5. The meter counts down 5 seconds and your result appears on the display after a beep. The test result will automatically be stored in the meter memory. Please do not touch the test strip during the countdown as this may result in an error.



6. After the testing is completed, the measurement data will be transmitted.

### Discarding the Used Test Strip

You can eject and discard the used test strip by using the strip ejector.



⚠ **Potential Biohazard**

Dispose of the used test strips as a potential medical waste.and in accordance to your state guidelines.

### Removing the Used Lancet

Unscrew the lancing device cover. Place the safety tab of the lancet on a hard surface and carefully insert the lancet needle into the safety tab.
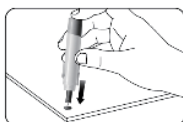
Press the release button to make sure that the lancet is in the extended position. Slide the ejection button forward to release the used or contaminated lancet in an appropriate container with a potential biohazard identification. Do not use your fingers to pull the used lancet out to prevent injury from the lancet. Dispose of used lancets and follow local regulations for proper disposal to prevent injury from the lancets.
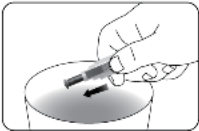


Place the lancing device cover back on the lancing device.
Please wash hands thoroughly with soap and water after handling the meter, lancing device, or test strips.

---

⚠ **Potential Biohazard**

Always dispose of the used or contaminated lancet properly to prevent potential injury or infections to others.

---

⚠ **Caution:**
- The lancing device is intended only for a single user and should not be shared.
- Check and do not use the lancet if the safety tab is missing or loose when you take the lancet out from the package.
- Do not use the contaminated or dropped lancet if the safety tab has been removed.
- Be cautious when the lancet needle is exposed.
- Do not reuse lancet, and do not share lancet with anyone including family members.

### Expected Glucose Range for People without Diabetes:

| Time | Normal plasma glucose range for adults without diabetes, mg/dL |
|---|---|
| Before breakfast (fasting) | < 100 |
| 2 hours after a meal | < 140 |

Reference: American Diabetes Association; Standards of Care in Diabetes—2023 Abridged for Primary Care Providers.Clin Diabetes 2 January 2023; 41 (1): 4–31.

Note: Please work with your healthcare professional to determine a target range that works best for you.

## Questionable or Inconsistent Results:

## Symptoms of High or Low Blood Glucose:

You can better understand your test results by being aware of the symptoms of high or low blood glucose. According to the American Diabetes Association, some of the most common symptoms are:

**Low blood glucose (Hypoglycemia):**
- shakiness
- sweating
- fast heartbeat
- blurred vision
- confusion
- passing out
- irritability
- seizure
- extreme hunger
- dizziness

**High blood glucose (Hyperglycemia):**
- frequent urination
- excessive thirst
- blurred vision
- increased fatigue
- hunger

Ketones (ketoacidosis):
- shortness of breath
- nausea or vomiting
- very dry mouth

If your blood glucose result does not match how you feel, please:

- Check the expiration date and the discard date of the test strip. Make sure that the test strip vial has not been opened for more than 6 months.
- Confirm the temperature in which you are testing is between 41-113°F.
- Make sure that the test strip vial has been tightly capped.
- Make sure the test strip has been stored at 36-86°F, 10-90% RH.
- Make sure the test strip was used immediately after removing from the test strip vial.
- Make sure that you followed the test procedure correctly.
- Perform a control solution test (See Testing with Control Solution for instructions).
- After checking all the conditions listed above, repeat the test with a new test strip. contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267 for technical support or questions. Please contact your healthcare provider for assistance after normal business hours.

As glucose level ranges for self-monitoring may vary from person to person, please check with your healthcare professional to determine the levels range you need to monitor, and

- Please contact your healthcare professional if your test result is below the lower limit of your level range or you see LO (less than 20 mg/dL).
- Please contact your healthcare professional If you test result is above the upper limit of your level range or you see HI (greater than 600 mg/dL).
- Please contact your healthcare professional if you obtain results that are not consistent with the way you feel, and to not change your medication or food regimen without approval from a healthcare professional.

## Precision and Accuracy

Linearity Results:
Lot 1: $y = 0.9982x - 1.2760$; $R^2 = 0.9975$.
Lot 2: $y = 0.9945x - 1.1411$; $R^2 = 0.9982$.
Lot 3: $y = 0.9949x + 0.1534$; $R^2 = 0.9973$.
All 3 Strips Lots: $y = 0.9959x - 0.7546$; $R^2 = 0.9976$.
The results support the claimed measurement range of 20-600 mg/dL.

The iGlucose®Essential blood glucose monitoring system was tested for within-run precision (300 measurements per glucose concentration for repeatability) using venous whole blood samples and intermediate precision (30 measurements per glucose concentration a day for 10 days) using glucose controls. See tables below for results.

| Within-Run Precision | | | |
|---|---|---|---|
| Interval | Glucose Concentration | Standard Deviation (SD) | Coefficient of Variation (CV) |
| 1 | 39.8 mg/dL | 1.8 mg/dL | 4.5% |
| 2 | 70.5 mg/dL | 2.3 mg/dL | 3.2% |
| 3 | 127.9 mg/dL | 3.6 mg/dL | 2.8% |
| 4 | 199.0 mg/dL | 5.9 mg/dL | 3.0% |
| 5 | 349.6 mg/dL | 10.2 mg/dL | 2.9% |

| Intermediate Precision | | | |
|---|---|---|---|
| Interval | Glucose Concentration | Standard Deviation (SD) | Coefficient of Variation (CV) |
| 1 | 40.0 mg/dL | 1.8 mg/dL | 4.6% |
| 2 | 70.1 mg/dL | 2.0 mg/dL | 2.9% |
| 3 | 129.8 mg/dL | 3.1 mg/dL | 2.4% |
| 4 | 199.5 mg/dL | 4.6 mg/dL | 2.3% |
| 5 | 349.9 mg/dL | 7.9 mg/dL | 2.3% |

User Evaluation:

The iGlucose®Essential blood glucose monitoring system was tested by 352 lay users using capillary blood samples and three iGlucose®Essential blood glucose test strips lots. The results were compared to the YSI Model 2300 STAT PLUS Glucose Analyzer, a laboratory instrument. See the table below with accuracy performance study results that shows the iGlucose®Essential blood glucose monitoring system achieved 100% of results within ±15% of the laboratory instrument. The results show here are intended to inform you about your meter, how much results are consistent from your actual blood glucose values.

Table 1- Linear Regression Results

| Slope | 0.9933mg/dL |
|---|---|
| Intercept | 0.3766 |
| Correlation coefficient (R) | 0.9941 |
| Number of sample | 352 |
| Range tested | 46.1 to 450.5mg/dL |

Table 2-Consumers Accuracy Results

Accuracy for Home Use by Lay-Users

iGlucose®Essential Blood Glucose Meter result may vary slightly from your actual blood glucose value. This may be due to slight differences in technique and the natural variation in the test technology.

The chart below shows the results of a study where 352 typical users used the iGlucose®Essential Blood Glucose Meter to test their blood glucose level. In this study, iGlucose®Essential Blood Glucose Meter gave results within ±15% of their true blood glucose level 352 out of 352 times.

| Difference range between the true blood glucose level and iGlucose®Essential Blood Glucose Meter result. | Within ±5% | Within ±10% | Within ±15% | Within ±20% |
|---|---|---|---|---|
| The percent (and number) of meter results that match true blood glucose level within x% | 68.5% (241/352) | 96.0% (338/352) | 100% (352/352) | 100% (352/352) |

## Comparing Meter and Laboratory Results

Before you go to the lab:

- Perform a control test to make sure the meter is working properly.
- If your doctor requested you go fasting, then this would be a good time to do this comparison.
- Bring your meter and test strips.

While you stay at the lab:

- Wash your hands before obtaining a blood sample.
- Obtain and test the blood samples immediately for your tests.
- Follow User Manual for performing a blood glucose test.

Note:

Users should periodically review their technique, and compare a result obtained with their meter to a result obtained using a laboratory method or a well-maintained and monitored system used by your healthcare provider.

## Testing with Control Solution

### Why Perform Control Tests

Performing a control test lets you know that your meter and test strips are working properly to give reliable test results. You should perform a control test when:

- Once a week.
- When using or when opening a new vial of test strips.
- When you suspect that the meter and test strips are not working together properly.
- After cleaning and disinfecting your meter.
- You dropped the meter.
- Always perform a quality control test if you suspect your results are inaccurate or do not match how you are feeling.

### About the Control Solutions

- Only use iGlucose®Essential Control Solution (1, 2 or 3) to practice on the system.
- Your meter automatically recognizes the control solution.
- The control solution results are not included in the average value calculation.
- Store the control solution at 36-86°F, 10-90% RH.
- All expiration dates are printed in Year-Month-Day format. 2023-01-01 indicates 1st January, 2023.
- Do not use control solution that is out of the expiration date or discard date (the control solution will expire 6 months after the vial is opened for the first time).
- Shake the vial well before use.
- Close the vial tightly after use.

### Performing a Control Test

1. Remove a test strip from the test strip vial. Tightly close the vial cap immediately after you have removed the test strip.

Note: Check the expiration and discard dates of the test strips. Do not use the expired test strip.

2. Insert a test strip into the meter in the direction of the arrows.
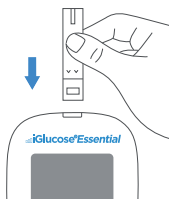
3. The meter turns on after a beep. An image of a test strip with a flashing blood drop will appear letting you know the meter is ready to test.



4. Shake the control solution vial thoroughly. Squeeze the control solution vial gently and discard the first drop. Squeeze out a second small drop on the top of the control solution vial surface.

   Note: Do not apply control solution to the test strip directly from the vial.

5. Immediately touch the tip of the test strip to the drop of control solution. The control solution is pulled into the test strip through the strip tip.

   Note: If the control solution sample does not fill the check window, do not add a second drop. Discard the test strip and start over with a new test strip.

6. Hold it in the drop until the meter beeps, and then you see the meter count down on the screen, followed by your control test result.



Note: The meter will automatically recognize and mark the control result for you. Control results are not included in the 7, 14 and 30 day average calculation.

7. Please wash hands thoroughly with soap and water after handling the meter, lancing device, or test strips.

### Understanding Your Control Test Result

Compare your control test result with the ranges printed on the test strip vial label.



The ranges in the picture above are only examples and the ranges on the vial in use should be referenced.
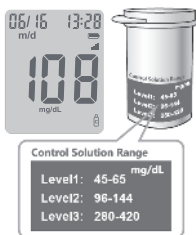
Note:

If your control test result is out of range:

- Check the expiration dates and discard dates of the test strip and control solution. Make sure that the test strip vial and the control solution vial have not been opened for more than 6 months. Discard any expired test strips or control solution.
- Confirm the temperature in which you are testing is between 50-104°F.
- Make sure that you stored strip and control solution at 36-86°F, 10-90% RH.
- Make sure that the test strip vial and the control solution vial have been tightly capped.
- Make sure the test strip was used immediately after removing from the test strip vial.
- Make sure the control solution was mixed well.
- Confirm that you are using iGlucose®Essential brand control solution.
- Make sure that you followed the test procedure correctly.

After checking all the conditions listed above, repeat the control solution test with a new test strip. If your results still fall out of the range indicated on the test strip vial label, your meter or test strips may not be working properly. DO NOT use the system to test blood. Contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267. Please contact your healthcare provider for assistance after normal business hours.

To turn your meter off, just remove the test strip. Dispose of the used test strips as medical waste. The result will be automatically marked and stored in the meter memory. Control results will be not included in your blood glucose averages.

### Using the Meter Memory

Your meter automatically stores up to 500 results with time, date and meal marker. Test results are stored from the newest to the oldest. The meter will also calculate the average values of blood Glucose records from the last 7, 14 and 30 days.

Notes:
- If there are already 500 records in memory, the oldest record will be erased to make room for a new one.
- Control results of blood glucose are not included in the 7-day, 14-day and 30-day average calculation.

## Viewing Your Test Results

When your meter is off, press ⊜ button to turn meter on. After a beep, a symbol of a test strip flashes on the display. Press ⊜ button to review previous results in order. Results will be shown starting with the most recent. Each result will show the date and time the test was taken. Continue to press ⊜ button for 2 seconds until the 7-day average of blood glucose appears in the center of the display. If you want to review the memory after you immediately performed a test, when the test result on the display, press ⊜ button to see the 7-day average of blood glucose.



Continue to press ⊜ button to view the 14-day average of blood glucose, then press ⊜ button again to review the 30-day average of blood glucose.



When END appears on the display, you have viewed all of the results in the memory.

# SECTION 4: MAINTENANCE AND TROUBLESHOOTING

Proper maintenance is recommended.

## Charging the Battery

When the meter needs to be charged, the Empty Battery Symbol (⬜) will appear.

When the Empty Battery Symbol (⬜) and 'E11' appear on the screen, the meter cannot be used. You must charge the battery before using your meter.

The meter battery may be charged using one of the following options:
• Micro USB cable (computer charging)
• Micro USB cable with the AC adapter (wall charging)

If you need the AC adapter which is not included in your kit, please contact your local distributor.

⚠ Caution:

• Do Not charge the meter outdoors or in a wet area.
• Do Not use the Micro USB cable, AC adapter or meter if it is damaged, discolored, abnormally hot, or has an unusual odour. Contact your local distributor.
• Do Not plug the AC adapter into a wall socket and leave it unattended.
• Verify that the wall socket voltage matches the AC adapter voltage.
• Do Not allow unsupervised children to charge the meter battery.

⚠ Caution:

Do Not insert a test strip when the meter is connected to a computer or wall outlet for charging since the meter is designed that blood glucose testing is not allowed during meter charging.

NOTE :

• Using the Micro USB cable or AC adapter charges the battery in about 3 hours.
• When using the USB port on your computer to charge the battery, be sure the computer is turned on and not in standby mode. If the meter does not charge, try using another USB port on your computer.
• To optimize battery life, it is best to charge the battery when the Empty Battery Symbol (⬜) appears.

⚠ Caution:

• Contact seller to confirm whether the AC adapter meets following specifications before purchasing it:
-Input: 100-240V~, 50/60Hz, 0.2A Max;
-Output: 5.0V , 1.0A;
-Standard ANSI/AAMI ES 60601-1 or IEC 60601-1.

⚠️ **Warning**

Please note that the battery is not removable. If the battery needs to be separated for sorting and discarding due to scrap of the product, please keep it away from children. A lithium battery is poisonous. If swallowed, immediately contact your doctor or poison control center. Discard battery according to your local environmental regulations.

## Caring for Your Glucose Monitoring System

- Wash and dry hands well before handling to keep the meter and test strips free of water and other contaminants.
- iGlucose®Essential Blood Glucose Meter is a precision electronic instrument. Please handle it with care.
- Avoid exposing meter, test strips and control solution to excessive humidity, heat, cold, dust, or dirt. The operating conditions for meter and test strips are 41-113°F, relative humidity 10-90%. The operating conditions for control solution are 50-104°F, relative humidity 10-90%. Avoid heat and direct sunlight.

## Cleaning and Disinfection

The purpose of the cleaning step is to remove the potential dirt and dust particles and leave a clean surface for the next disinfection step. The purpose of disinfection step is to disinfect the microorganisms on the whole surface of meter.
Use only Clorox™ Healthcare Bleach Germicidal Wipes, which has been proven to be safe to use with the iGlucose®Essential Blood Glucose Meter. Clorox™ Healthcare Bleach Germicidal Wipes are available by visiting and purchasing at http://www.walmart.com, http://www.staples.com/, and https://www.amazon.com/.
The meter should be cleaned and disinfected a minimum of once per week. This process has been validated for 608 cycles, which is equivalent cleaning and disinfecting your meter every 3 days for 5 years. This is to ensure that your meter will operate properly over the 5-year life of the meter.

Warning: If the meter is being operated by a second person who is providing testing assistance to you, the meter should be cleaned and disinfected prior to use by the second person.

Note:
- Do not use alcohol or any other solvent that have not been proved to be safe and effective for use with the device.
- Do not allow liquid, dirt, dust, blood, or control solution to enter the test strip port or the USB port.
- Do not squeeze the wipe or gauze into test strip port.
- Do not spray cleaning solution on the meter.
- Do not immerse the meter in any liquid.
- Please refer to the safety instruction in the labeling of Clorox Healthcare Bleach Germicidal Wipes before using wipes.

## Cleaning Your Meter

Step 1:
Take one piece of Clorox™ Healthcare Bleach Germicidal Wipes (EPA Registration No. 67619-12) from the container.

Step 2: Clean the entire surface of the meter including the front, back, left, right, top and bottom sides of the meter, and specifically also including the test strip port, test strip ejector, button, material seams and USB port for one minute. This cleaning is to prepare a clean meter surface for a disinfection process.



| Front side | Back side | Right side | Left side | Top side | Bottom side |

## Disinfecting Your Meter

Step 1: After cleaning your meter, take out another new piece of Clorox™ Healthcare Bleach Germicidal Wipes.

Step 2: Wipe the entire surface of the meter by a back-and-forth movement including the front, back, left, right, top and bottom sides of the meter. The parts of the meter that are particularly susceptible to blood contamination should be wiped, which include the test strip port, test strip ejector, button, material seams, and USB port.



| Front side | Back side | Right side | Left side | Top side | Bottom side |

Step 3: Please do not touch the meter and wait for one minute at least to make the meter's surface to be dry after performing the step 2 above.

Step 4: Please wash hands thoroughly with soap and water after completing the disinfection procedure.

Notes:

Although it has not been observed, some alterations may appear on your meter due to the cleaning and disinfection procedure. Such as: cloudy display window, plastic housing cracking, meter's button does not function, partial display on full screen, unable to execute the meter's initial set up, etc. If you notice any of these external changes to your meter or any changes to the performance of your meter stop using the meter and please contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267 for help. Please contact your healthcare provider for assistance after normal business hours.

If you have questions about cleaning or disinfection, contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267. Please contact your healthcare provider for assistance after normal business hours.

## Troubleshooting Guide

| What You See | What It Means | What You Should Do |
|---|---|---|
| 06/16  13:28 m/d  **HI** | The test result is above 600 mg/dL. | Wash and dry your hands and the test site well.Repeat the test using a new test strip. If your result still flashes "HI", contact your healthcare professional as soon as possible. |
| 06/16  13:28 m/d  **LO** | The test result is below 20 mg/dL. | Wash and dry your hands and the test site well. Repeat the test using a new test strip. If your result still flashes "LO", contact your healthcare professional as soon as possible. |
| **E 1** | Blood or control solution was applied to the test strip before the flashing blood drop appeared on the display | Discard the test strip and repeat the test with a new test strip. Wait until you see the flashing blood drop on the display before testing. |
| **E 2** | The meter is sensing a used or contaminated test strip. | Discard the test strip and repeat the test with a new test strip. Wait until you see the flashing blood drop on the display before testing. |
| **E 3** | Incorrect test strip. | Discard the test strip and repeat the test with a new test strip. Make sure that you are using a iGlucose®Essential test strip. |
| **E 4** | Incorrect sample. | Discard the test strip and repeat the test with a new test strip. Make sure that only human capillary blood and iGlucose®Essential control solution are used for the test. |

| | | |
|---|---|---|
| E 5 | Temperature out of range. | Move to an area that is within the operating range for the meter. Let the meter adjust to this temperature for 20 minutes before performing a test. |
| E 6 E 7 | Potential hardware error. | Restart the meter. If the problem continues, contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267. Please contact your healthcare provider for assistance after normal business hours. |
| E 8 | A test strip was inserted while the meter was connected to a computer or wall outlet. | When the charge is completed (about 3 hours for charging an empty battery), remove the Micro USB cable from the meter, and then take a test. |
| E 10 | Insufficient sample. | Repeat the test and apply enough sample to fill the test strip check window. |
| E 11 | Running out of battery. | Charge the battery. |
| ⟳ | Data not transmitted | Please check network connection. Then discard the test strip and repeat the test with a new test strip. If the problem continues, contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267. Please contact your healthcare provider for assistance after normal business hours. |
| ⅹ.ıll | No signal | Restart the meter. If the problem continues, contact Smart Meter Customer Support Monday-Friday 9:00AM-5:00PM EST 844-445-8267. Please contact your healthcare provider for assistance after normal business hours. |

# SECTION 5: TECHNICAL INFORMATION

## System Specifications:

| Feature | Specification |
| --- | --- |
| Measurement Range | 20 - 600 mg/dL |
| Measurement Result | Plasma Glucose |
| Sample | Fresh capillary whole blood |
| Sample Volume | 0.8 µL |
| Test Time | 5 seconds |
| Power Source | Rechargeable 3.7 Volt Lithium Ion Battery |
| Charging Time | ≤ 3h, ▬▬▬ Direct current |
| Battery Type | Rechargeable, 800 mAh, 3.7 Volt DC nominal, lithium polymer battery (5V input charge voltage) |
| Units of Measure | mg/dL |
| Memory | 500 records |
| Automatic Shutoff | 2 minutes after last action |
| Dimensions | 95.5 mm x 59.1 mm x 20.5 mm |
| Display Size | 47 mm x 37.5 mm |
| Weight | Approximately 70g |
| Operating Temperature | 41 - 113°F |
| Operating Relative Humidity | 10-90% (non-condensing) |
| Hematocrit Range | 20 - 70% |
| Charging Port | Micro USB |
| Data Transmission | 4G |

## 4G Specifications：

| Item Name | Design Specification |
|---|---|
| Throughput | Downlink≥500Kbps, Uplink≥1000Kbps |
| Latency | ≤25ms |
| Data Integrity | Data shall be transmitted correctly and completely |
| Accessibility | Accessibility is high since 4G is broadband |
| Signal Priority | Routine priority using 4G access standard |

## Warranty

Please complete the warranty card that came with this product and mail it to

Mio Labs Inc.
#1023, ZGC Innovation Center,
4500 Great America Pkwy, Santa Clara, CA 95054

If the meter fails to work for any reason other than obvious abuse within the first five (5) years from purchase, we will replace it with a new meter free of charge. For your records, also write the purchase date of your product here.
Date of purchase: 

Note:
This warranty applies only to the meter in the original purchase, and does not apply to the battery supplied with the meter.

## EMC Guidance

Warning:
Don't use near active HF surgical equipment and the RF shielded room of an ME system for magnetic resonance imaging, where the intensity of EM disturbances is high.
Warning:
Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
Warning:
Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

Warning:
Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12 in (30 cm) to any part of the equipment, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

| Guidance and Manufacturer's Declaration – Electromagnetic Emissions | |
| --- | --- |
| Emissions test | Compliance |
| RF emissions CISPR 11 | Group 1 |
| RF emissions CISPR 11 | Class B |
| Harmonic emissions IEC 61000-3-2 | Class A |
| Voltage fluctuations/flicker emissions IEC 61000-3-3 | Complies |

| Guidance and Manufacturer's Declaration Electromagnetic Immunity | | |
| --- | --- | --- |
| Immunity Test | IEC 60601-1-2 Test L evel | Compliance Level |
| Electrostatic discharge(ESD) IEC 61000-4-2 | ±8 kV contact<br>±2 kV, ±4kV, ±8 kV, ±15 kV air | ±8 kV contact<br>±2 kV, ±4kV, ±8 kV, ±15 kV air |
| Electrical fast transient/burst IEC 61000-4-4 | ±2 kV for power supply lines | ±2 kV for power supply lines |
| Surge IEC 61000-4-5 | ± 0.5 kV, ± 1 kV line(s) to line(s) | ± 0.5 kV, ± 1 kV line(s) to line(s) |
| Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11 | 0% $U_T$; 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°<br><br>0% $U_T$; 1 cycle<br>70% $U_T$; 25/30 cycle<br>Single phase: at 0°<br>0% $U_T$; 250/300 cycle | 0% $U_T$; 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°<br><br>0% $U_T$; 1 cycle<br>70% $U_T$; 25/30 cycle<br>Single phase: at 0°<br>0% $U_T$; 250/300 cycle |
| Power frequency magnetic field IEC 61000-4-8 | 30 A/m<br>50Hz/60Hz | 30 A/m<br>50Hz/60Hz |
| Conduced RF IEC 61000-4-6 | 3 V r.m.s.<br>150 kHz to 80 MHz<br>6 V RMS in the ISM and amateur bands between 0.15 MHz and 80 MHz | 3 V r.m.s.<br>150 kHz to 80 MHz<br>6 V RMS in the ISM and amateur bands between 0.15 MHz and 80 MHz |
| Radiated RF IEC 61000-4-3 | 10 V/m<br>80 MHz - 2.7 GHz<br>80 % AM at 1 kHz | 10 V/m<br>80 MHz - 2.7 GHz<br>80 % AM at 1 kHz |

NOTE: $U_T$ is the a.c. mains voltage prior to application of the test level.

| Guidance and Manufacturer's Declaration-IMMUNITY to proximity fields from RF wireless communications equipment | | | | | |
|---|---|---|---|---|---|
| Immunity Test | IEC60601 Test Level | | | | Compliance Level |
| | Test Frequency | Modulation | Maximum Power | Immunity Test Level | |
| Radiated RF IEC 61000-4-3 | 385 MHz | **Pulse Modulation: 18Hz | 1.8W | 27 V/m | 27 V/m |
| | 450 MHz | *FM+ 5 kHz deviation: 1kHz sine | 2W | 28 V/m | 28 V/m |
| | 710 MHz | **Pulse Modulation: 217Hz | 0.2W | 9 V/m | 9 V/m |
| | 745 MHz | | | | |
| | 780 MHz | | | | |
| | 810 MHz | **Pulse Modulation: 217Hz | 2W | 28 V/m | 28 V/m |
| | 870 MHz | | | | |
| | 930 MHz | | | | |
| Radiated RF IEC 61000-4-3 | 1720 MHz | **Pulse Modulation: 217Hz | 2W | 28 V/m | 28 V/m |
| | 1845 MHz | | | | |
| | 1970 MHz | | | | |
| | 2450 MHz | **Pulse Modulation: 217Hz | 2W | 28 V/m | 28 V/m |
| | 5240 MHz | **Pulse Modulation: 217Hz | 0.2W | 9 V/m | 9 V/m |
| | 5500 MHz | | | | |
| | 5785 MHz | | | | |

Note* - As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.
Note** - The carrier shall be modulated using a 50 % duty cycle square wave signal.

Frequency Requirement

| Frequency Band | Transmit (MHz) | Receive (MHz) |
|---|---|---|
| Band 2 | 1850 - 1910 | 1930 - 1990 |
| Band 4 | 1710 -1755 | 2110 - 2155 |
| Band 12 | 699 - 716 | 729 - 746 |
| Band 13 | 777 - 787 | 746 - 756 |

TX POWER

| Frequency Band | Max Power | Min Power |
|---|---|---|
| Band 2/4/12/13 | 21 dBm +1.7/-3 dB | < -39 dBm |

## FCC Requirement

RF Exposure Compliance
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the extremity, with 00mm separation.