



Blood Glucose Monitoring System

Operating Instructions

NOTICE:

The essential features of the type described and illustrations herein remaining unaltered, Pulsatom Health Care Pvt. Ltd. reserves the right to carry out modifications at any moment on the monitor, strips or any other accessories as may be convenient and necessary without being obliged to bring this booklet up-to-date. The descriptions and illustrations in this booklet are not to be taken binding on the manufacturers.

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- △ *Any text that appears in italics and with these symbols is important information that should be read carefully and adhered to while using the monitor.*
- △ *Various Memory Configurations are available. Please check your package for the Memory configuration of your monitor.*

1. Introduction

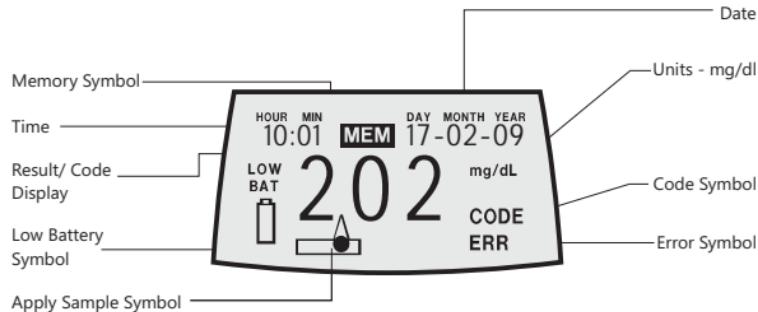
GM3+ is the latest Glucometer coming from Pulsatom Health Care Pvt. Ltd., manufacturers of India's first indigenous Blood Glucose Monitors. Please read this users' manual thoroughly before you begin using the GM3+ Blood Glucose Monitor, as it provides all the information you need to use it correctly. It consists of GM3+ Blood Glucose Monitor, GM3+ Test Strips, Blood Lancet Device, Lancets, 2 Nos AAA batteries, Carry Case and User Manual. The above list is a comprehensive list of items that form a part of the Gm3+ Blood Glucose Monitoring System. The actual contents of the package purchased by you may vary according to the package.

2. Get to know your GM3+



Front View of your GM3+

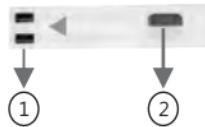
Back View of your GM3+



Display Panel of your Gm3+ Blood Glucose Monitor

GM3+ Blood Glucose Test Strips

- 1) Contact Area - Indicated by the arrow mark. Insert this end of the test strip into the Gm3+ monitor with the arrow facing upwards and towards the monitor.
- 2) Test Area - Blood sample is applied to this area of this test strip for testing.



**Gm3+
Blood Glucose Test Strip**

3. Installing Batteries in your GM3+

Your monitor requires two external 1.5 Volts (AAA) alkaline batteries (type LR 03) that need to be installed in the monitor before the monitor can be used.

- △ *When replacing external batteries, always replace both batteries at the same time and both should be of the same brand. Use good quality alkaline batteries only. Inferior/Cheap batteries may damage your monitor. If the batteries show signs of leakage, please replace immediately. Leaking batteries will damage your monitor.*

The life of the batteries depends on the extent of use and the brand of battery used.

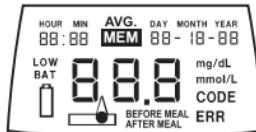
- 1) Press lightly on the battery compartment cover lock and lift the cover off the back of monitor.
- 2) Insert two 1.5 Volts (AAA) alkaline batteries (type LR03) one at a time into the battery compartment.
- 3) While inserting the batteries into the compartment, ensure that the positive & negative terminals are aligned correctly as marked in the compartment.
- 4) Place the battery cover back on the GM3+ and snap it in place to lock the battery compartment lid.

- △ *Be sure that the positive (+) side of the each battery is facing in the correct direction. If batteries are incorrectly installed, the monitor may be permanently damaged.*



4. Switching ON your GM3+

- 1) When you press the POWER  Button, the monitor switches ON and, displays the initial screen in which all the segment's of the display are shown.
- 2) It next displays the current Code set on your GM3+ monitor. This is indicated by the tag, CODE displayed on the monitor.
- 3) It then displays the "strip along with a drop" symbol indicating it is ready to accept a sample for a test.
- 4) If no sample is applied within 60 seconds, the monitor switches OFF automatically.
- 6) Press the POWER  Button for 2 seconds to manually switch OFF the monitor

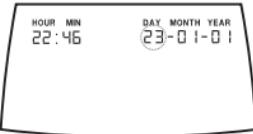
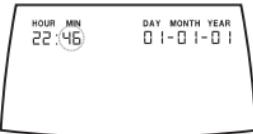
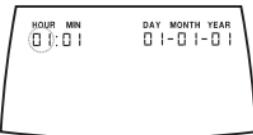
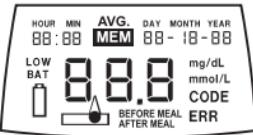


5. Date and Time Settings

Set the date and time on your GM3+ monitor before use. However, even if you do not set the date and time, test results are not affected.

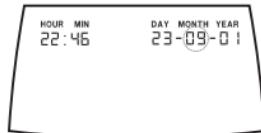
For example, let us set on your GM3+ monitor the time to 22:46 (10:46PM) and date to 23 September 2008.

- When you press the POWER  Button, the monitor switches ON and displays the initial screen in which all the segment's of the display are shown.
- Press the POWER  Button when the initial display is shown to enter the time and date setting mode. Your monitor now displays the current time and date set on your monitor and the hour is blinking.
- Press NEXT or PREV  Button to increase or decrease the hour setting till it displays the desired hour value. For example, 22 to set a time of 22:46 (10:46 PM).
- Press the POWER  Button to go to the minutes set mode. The minutes now start to blink.
- Press the NEXT or PREV  Button to increase or decrease the minutes setting till it displays the desired minutes value. For example, 46 to set a time of 22:46 (10:46 PM).
- Press the POWER  Button to go to the set day mode. The day now starts to blink.
- Press the NEXT or PREV  Button to increase or decrease the day setting till it displays the desired date value. For example, 23 to set a date of 23 September 2008.
- Press the POWER  Button to go to the set month mode. The month now starts to blink.



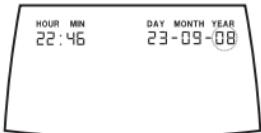
9) Press the NEXT or PREV  Button to increase or decrease the month setting till it displays the desired month value. For example, 09, to set a date of 23 September 2008.

10) Press the POWER  Button to go to the set year mode. The year now starts to blink.



11) Press the NEXT or PREV  Button to increase or decrease the year setting till it displays the desired year value. For example, 08 to set a date of 23 September 2008.

12) Press the POWER  Button to save the date and time that you have set and return to using your GM3+.



△ *If no Button is pressed for 5 seconds, the displayed time and date is saved and your monitor automatically exits from the time and date setting mode.*

6. Coding your GM3+ for use

Before you use your GM3+ for the first time and thereafter every time you open a new box of test strips, you need to set the monitor to match the GM3+ strip being used. This is called Coding of the monitor.

△ *Incorrectly coded monitors will give false results. Coding needs to be done every time you use a different or new pack of strips.*

- 1) Code of the GM3+ strips can be found printed on the box of GM3+ strips as shown in the figure. For example, let us code your monitor to use a packet of strips with Code C13.



- 2) When you press the POWER  Button, the monitor switches ON and displays initial screen in which all the segment's of the display are shown.
- 3) The code number currently set on your GM3+ monitor is displayed, identified by the "CODE" indicator on the display.
- 4) Now, press the NEXT or PREV  Button to increase or decrease the code setting till it displays the desired code for example, C13 to use a pack of strips with code C13.
- 5) Press the POWER  Button to save the new code number and go to the test mode.

△ If no Button is pressed for 5 seconds, the displayed code is not saved and your monitor automatically exits the code setting mode.



7. Blood Glucose Testing

Gather all your testing supplies before you begin to test. You will need the following items:

- 1) GM3+ Blood Glucose Monitor
- 2) GM3+ Test Strips
- 3) Comfylets Lancets- Super Fine Lancets to ensure easy flow of blood with maximum comfort.
- 4) Safe Care Lancet Device- To help you prick your finger for a blood sample with ease.
- 5) Sterile Cotton Swab

△ Items packed with your Kit is marked on your GM3+ Monitor Carton Box.

A) Obtaining a sample of your Blood for Glucose Testing

- 1) Wash your hands with soap and water. Wipe dry.
- 2) If you use an alcohol wipe or medicated spirit to clean the puncture site, ensure that you let your finger dry completely before testing.
- 3) Wait at least for 3 to 4 minutes before testing.
- 4) Wipe the test area with a sterile dry cotton.



B) Using Safecare Auto Lancet Device

- 1) Unscrew the Auto-Lancet tip.
- 2) Insert a new lancet firmly into the carrier and pinch the lancet to twist off the cover.
- 3) Replace the threaded tip.
- 4) The comfort tip offers five(5) different levels of skin penetration. To select best depth, set as follows:
 - 1-2 for soft or thin skin
 - 3 for average skin thickness
 - 4-5 for thick or calloused skin



- △ To select a desired depth, move the number to match the arrow. For an even finer adjustment, the arrow may be placed between any two numbers.
- 5) Next hold the tip in one hand and pull on the sliding barrel with the other hand. The device will be cocked when a click is felt, as the ends are pulled apart. Release the sleeve. It will automatically move back to its original position near the trigger Button.
- 6) Warm your fingers slightly to improve blood flow to you fingertips.

- 7) Hold the loaded device against the side of your finger. Next press the trigger and lift up the device.
 - 8) Set aside the Auto-Lancet. Wait for a few seconds till a droplet of blood is formed. Do not press hard or milk your fingers to draw the blood. You may press your finger gently.
- △ *For safety reasons, and to prevent cross-contamination, discard the used lancet into an appropriate scrap or bio-hazard container. Never allow another person to use a lancet that has already been used.*

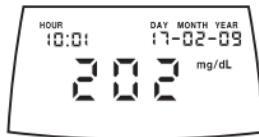
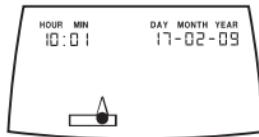
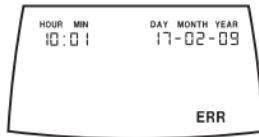


C) Checking your Blood Glucose

- △ *For best results, the test strip must be used immediately after opening from foil pack.*
- 1) Open a new GM3+ strip from the foil pack.
 - 2) Insert the test strip into the GM3+ Monitor with the arrow pointing towards the monitor and facing upwards.
 - 3) Press the POWER  Button to turn on the monitor. It displays initial message, followed by Code set on the monitor.
- △ *Ensure that the calibration code displayed matches the calibration code of strips being used. If not, change the calibration code of your monitor as explained in the Chapter 6 'Coding your GM3+ for use.'*



- 4) The monitor now displays the 'Strip with a drop Symbol' which indicates that it is ready to accept the blood sample.
- 5) If instead of the test symbol, "ERR" is displayed as shown here, refer to the trouble shooting section for more information.
- 6) With the strip inserted in the GM3+, apply the drop of blood to the test area. To do so, you may lift the monitor in your hand and move it to come in contact with the drop of blood. The blood droplet will automatically fill up the test area.
- 7) A very small droplet of blood (2~3 μ l) is required for the test. Just let your finger with a droplet of blood touch the test area of the strip. Take away your finger as soon as you see blood flowing into the test area. Do not flood the test area with excessive blood.
- 8) As soon as the sample is applied, the machine begins countdown of 40 seconds and displays in time remaining for test to complete as 40...39...38.
- 9) At the end of 40 seconds, your blood glucose value is displayed in mg/dL(units) on the GM3+ monitor. This is also saved in the memory along with time and date
- 10) If the blood glucose result is higher than 600mg/dL, 'Hi' is displayed and If the blood glucose result is lesser than 20mg/dL, 'Lo' is displayed.



- △ Your GM3+ can store your last test results in its memory. To maintain a permanent log, record the blood glucose values in your health log.

Remove the test strip from the monitor and discard it safely. Unscrew the Auto-Lancet tip. Carefully stick the protective disk cover back on the used lancet. Grip the holder firmly and pull the lancet safely out of the holder. Screw the tip back on the auto-Lancet. Dispose the lancet safely.

- △ If ERR is displayed during testing, refer to Trouble Shooting section for more information.
- △ If the readings obtained on your GM3+ monitor does not confirm with your symptoms or the way you feel, review proper testing procedure and repeat test with a new strip/ new pack of strips. If the reading that appears still does not confirm with your symptoms, seek your doctors advice.

8. When the Blood Glucose test is over

- 1) If you wish to do another test, insert a new strip into the monitor and press the NEXT or PREV Button. The monitor restarts for you to do another test.
- 2) The monitor automatically switches OFF after 1 minute after the test is over or after 10 seconds after the used strip is removed .
- 4) To manually switch OFF your monitor, Press the POWER Button for 2 seconds.

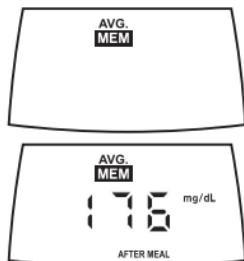
9. Memory Function (Model Specific)

GM3+ monitor has a memory capacity to automatically store your last 75 Blood Glucose test results along with smart tags. You can review these readings in order from the most recent reading to the oldest reading or vice versa. The Smart-tag, Date and Time of the test result is also displayed enabling you to know when those readings were taken. GM3+ also displays the average of the all Random values saved , followed by the Before Meal Average and After Meal average of the values saved in its memory. While calculating the average, it ignores all results under 20 mg/dl and above 600mg/dl.

- △ Your monitor has been programmed to retain the memory readings when you replace batteries or store it without external batteries for a period of time.
- △ If the memory is full with 75 glucose results and a new result is added, then, the oldest result is automatically deleted.

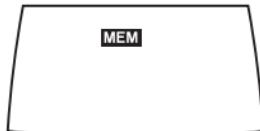
Reviewing Average of Stored Values

- 1) Press the POWER  Button once to begin using the memory function.
- 2) The monitor shows your average readings with Smart-tags.
- 3) Press the NEXT or PREV  Button to review other averages sequentially.



Reviewing Stored Values

- 1) Press the POWER  Button till the 'MEM' symbol is displayed on the monitor to begin using the memory function.
- 2) The monitor shows your latest reading with Smart-tag.
- 3) Press the NEXT or PREV  Button to review other averages sequentially.
- 4) Continue to press NEXT or PREV  Button continuously to scroll through all memory values with their Smart-tags.



- △ *If there is no Button input for 6 seconds, the program automatically exits the memory mode and returns to test mode.*

10. Important Do's & Don't's

- 1) Check Expiry Date: Use strips before the expiry date marked on the GM3+ test strip pack.
- 2) Store Strips as recommended Store the strips in a cool and dry place below 30°C. Packed strips may be stored in refrigerator. DO NOT use strips which have not been correctly stored.
- 3) DO NOT use strips, that have been left open for a long time. Tear open the foil pack and remove the strip at the time of testing only.
- 4) Ensure that the code displayed on the monitor matches the code printed on the strips pack.
- 5) Ensure that your hands are clean at the time of obtaining a sample.

- 6) DO NOT use alcohol or spirit to clean your finger before the test. If you use spirit or an alcohol swap before pricking your finger, wait for 3-4 minutes for the finger to dry completely before pricking the finger.
 - 7) Use fresh blood for testing: Use only freshly obtained capillary or venous blood for testing. DO NOT use blood which has been stored for some time for testing as it can give erroneous readings.
 - 8) Put the right quantity of blood on the strip: A very small drop of blood is required for the test. Ensure that you do not flood the test strip with excessive blood.
 - 9) DO NOT smear blood on test area of GM3+ strip. Gently touch the drop of blood to the test area and the blood will fill up the test area by itself.
- △ *Your GM3+ Monitor is an invaluable tool to take care of your Diabetes monitoring. Ensure that you handle the monitor with care. DO NOT insert any other object other than a test strip into the strip slot. DO NOT drop your monitor or subject it to physical impact as you may damage the same.*

11. Caring for your GM3+ Monitor

- 1) This unit uses precision parts; care should be taken to avoid extremes in temperature variations, humidity shock, dust and exposure to direct sunlight.
- 2) Do not drop or strike this unit. This may damage internal electronics of the unit.
- 3) When cleaning this unit, use only a soft, dry cloth. Do not use any sort of strong cleaning liquids to clean the monitor. If need be, wipe with a moist soapy cloth. A mild alcohol can also be used to clean your monitor. Do Not spray any cleaning solution directly onto the monitor or submerge it in any liquid.
- 5) If the unit is to be stored for a long period, be sure to remove the battery before storage to prevent battery leakages.
- 6) Store your monitor and supplies in the carry case provided to protect from dust and high temperature.

12. Trouble Shooting

- 1) No Display Appears:
 - Remove and re-install batteries.
 - Check that the batteries are installed correctly
 - Install New Batteries.
 - Check if old batteries have leaked. If Yes, send for servicing.
- 2) Monitor displays "LOW BAT"
 - Replace Batteries.
- 3) Buttons are inoperative
 - Remove and re-install batteries.
- 4) Displays "ERR"
 - Remove and reinsert test strip.
 - If problem persists, repeat test with a new test strip.
 - Ensure sample is applied after strip symbol displayed.
- 5) Incorrect Blood Glucose Values - Was the correct code is set on the monitor?
 - Was the strip used before its expiry date?
 - Was the strip stored under 30°C in a cool and dry place?
 - Was the puncture site cleaned & dried well before the test?
 - Was alcohol or spirit used to clean the puncture site? If yes, did you wait for 3-4 minutes for it to dry?
 - Did you apply too less or excess quantity of blood sample?

If case you have missed any of the precautions in Point 5, please repeat the test with a new strip after following the correct procedure described in Blood Glucose testing section correctly.

13. Specifications

Product:	GM3+ Blood Glucose Monitor
Application:	To determine blood glucose in whole blood by amperometric method
Size:	120 mm x 70 mm x 24 mm
Weight:	125 grams (including batteries)
Operating Conditions: Temperature: 10°C to +40°C; Humidity: <98%	
Power Supply:	Two 1.5V Alkaline AAA batteries (Type LR 03)
Battery Life:	Approx. 20,000 minutes when used three minutes per day.
Display:	Large Display with 12 mm characters for results
Measuring range:	20 mg/dl to 600 mg/dl
Measuring time:	40 seconds
Test strip Storage:	Between +10°C and +30°C
Memory Capacity:	Last Test Value with Time and Date or 75 Blood Glucose Test Results with Time, Date and Smart Tag for Random or Before or After Meal. It also displays average for each tag

14. Warranty Information

This monitor is warranted against any defect due to defective materials or workmanship for a period of three years from the date of purchase.

If, during this 3-year period, the monitor does not work properly because of a defect in material or workmanship, Pulsatom Health Care Pvt. Ltd. will repair the monitor or replace the monitor with another monitor or an equivalent product free of charge. The Warranty of the repaired or replacement monitor will expire on the date of expiration of the original Warranty or ninety (90) days after shipment of a replacement system, whichever period is longer. This Warranty applies only to the original purchaser of the monitor who has registered with Pulsatom Health Care Pvt. Ltd. as a user of this monitor by sending the customers' registration card duly filled in.

PULSATOM HEALTH CARE PVT. LTD. undertakes to repair or replace the instrument at its discretion subject to the following conditions:

- 1) The purchase Memo/ Bill/ Invoice must be preserved and produced along with the defective unit.
- 2) In an event of any complaint, the unit must be returned to the nearest service center or to us, freight paid for examination.
- 3) This Warranty is not valid for damages resulting from accident, mishandling, negligence, improper repair, tampering, loss of components or accessories or if the instrument is not used according to the manual.
- 4) The purchaser's exclusive remedy with respect to the GM3+ shall be repair or replacement, at the option of Pulsatom Health Care Pvt. Ltd.

- 5) In no event shall Pulsatom Health Care Pvt. Ltd. be liable to the purchaser or any other person for any direct, incidental, consequential, special or punitive damages arising from or in any way connected with the purchaser or operation of the monitor or its parts, even if Pulsatom Health Care Pvt. Ltd. has been advised of the possibility of such damages.
- 6) No Warranty of merchantability or fitness for a particular purpose, if any is implied from the sale of the monitor, shall extend for longer duration than three years from the date of purchase.
- 7) While the company will make every effort to repair or replace the unit under this Warranty as soon as possible, it is expressly made clear that the company shall not be liable to do so within any specified time or period.
- 8) All warranties covering GM3+ blood glucose monitoring systems are valid only when GM3+ is used with GM3+ Blood Glucose Strips. All warranties covering the GM3+ are voided by use of any other strips other than GM3+ Strips.

Claims, if any, to this Warranty shall be made only before the courts having jurisdiction in Bengaluru.

15. Service Instructions

Customers experiencing difficulties should review the troubleshooting guide of their user manual. For your service requirements and any other enquires, please contact us. You can contact us by any of the following means:

Online: <http://www.pulsatom.com>

E-mail: info@pulsatom.com

Fax: +91-80-2357-9170

Tel.: +91-80-2357-9166,093426-04600

Mail to: Pulsatom Health Care Pvt. Ltd.

86D2/A, Industrial Suburb,

Yeshwanthpur,

Bengaluru - 560 022

Karnataka INDIA

Pulsatom

Health Care Pvt. Ltd.

86D2/A, Industrial Suburb, Yeshwanthpur, Bengaluru 560 022 INDIA
Tel: +91-80-23579166 Fax: +91-80-23579170 Email: info@pulsatom.com
Web: www.pulsatom.com