

Glucose Meter Reader (GMR) Sensor Data Sheet

GMR 10012018

SPECIFICATIONS

- > **Range:** 20-600 mg/dL (1.1-33.3 mmol/L)
- > **Precision:** up to 4% of measured value (see *Performance Characteristics* on next page)
- > **Test Sample:** Blood sample taken from fingertips, palms, forearms, thighs, upper arms, or calves
- > **Sample Size:** 0.5 μ L
- > **Test Time:** 5s
- > **Battery Type:** CR2032
- > **Battery Life:** 1000 tests

FEATURES

- > Glucose level (in mg/dL)
- > Built-in LCD display
- > Standalone device capability
- > Internal memory for up to 250 readings (standalone use only)
- > 10 disposable lancets (included)
- > 10 disposable test strips (included)

APPLICATIONS

- > Life sciences studies
- > Physiology studies
- > Sports research
- > Biomedical research
- > Telemedicine research

GENERAL DESCRIPTION

This user-friendly glucose meter measures reliable glucose level data (mg/dL) using blood samples taken from fingertips, palms, forearms, upper arms, or calves. The built-in colour LCD display displays the measured glucose level and allows this sensor to be used both as standalone device or as biosignalsplux sensor within [OpenSignals \(r\)evolution software](#). This sensor comes with 10 disposable single-use lancets and test strips to take and prepare the needed blood samples.



Fig. 1. User-friendly glucose meter reader.

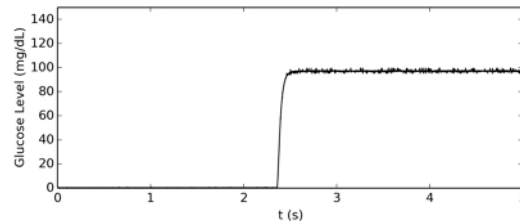


Fig. 2. Typical raw GMR data (acquired with biosignals).

biosignalsplux
wearable body sensing platForm

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APPLICATION NOTES

This sensor is designed to measure the glucose concentration in 5 μ L blood samples taken from fingertips, palms, forearms, thighs, upper arms, or calves. Please follow the application instructions the flyer provided with your sensor to ensure a correct and harmless use of this sensor.

This sensor is not powered by the biosignalsplux hub and requires a type CR2032 battery (included).

WARNING

The disposable test strips provided with this sensor and other compatible test strips should be used only with fresh capillary whole blood samples and are not reusable.

PERFORMANCE CHARACTERISTICS

Total Precision		
Blood average	44 mg/dL (2.4 mmol/L)	SD = 1.7 mg/dL (0.1 mmol/L)
	137 mg/dL (7.6 mmol/L)	3.7%
	355 mg/dL (19.7 mmol/L)	4.0%

TRANSFER FUNCTION

[20mg/dL (1.1mmol/L), 600mg/dL (33.3mmol/L)]

$$GLU(mg/dL) = 0.25 \times 2^{10-n} \times ADC - 0.8$$

SYS(mmHg) – Systolic blood pressure value in mmHg

ADC – Value sampled from the channel

n – Number of bits of the channel¹

PHYSICAL CHARACTERISTICS

- > **Size:** 91x41.5x17.5mm
- > **Weight (standalone):** 45g
- > **Weight (with adapter):** 92g
- > **Cable Length:** 195cm

ORDERING GUIDE

Reference	Package Description
SENSADV-GMR	CareSens II glucometer data reader

3rd PARTY NOTE

This sensor is an adaptation of the 3rd party *CareSens™ II Blood Glucose Monitoring System (i-SENSO, Inc)* which provides compatibility with biosignalsplux devices. It can be used both as standalone device or as biosignalsplux sensor.

¹ The number of bits for each channel depends on the resolution of the Analog-to-Digital Converter (ADC); in biosignalsplux the default is 16-bit resolution ($n = 16$), although 12-bit ($n = 12$) and 8-bit ($n = 8$) may also be found.

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Please do also read the sensor manual provided by *i-SENS, Inc* before using this sensor:

http://biosignalsplux.com/datasheets/telemedicine/caresens_ii.pdf