Medisign Link

Diabetes Management Software
Version 2.0

User's Manual

Contents

Chapter1
Preferences

1.1 About Medisign Link Software

Instruction

The Medisign Link Diabetes Management Software is personal computer(PC) based software intended for use in the home and professional settings to help people with diabetes and their healthcare professionals in the review, analysis and evaluation of glucose test results for an effective control and manage blood glucose.

Medisign Link information

Warning:

Do not make treatment decisions based solely on the information provided by Medisign Link. Before determining and using the blood glucose report, please consult your physician's suggestion. It is important for you and your physician to understand how the statistics are calculated before making any adjustments to treatment.

The Medisign Link - Diabetes Management Software is an optional software accessary for use with the medisign glucose meter with data management capabilities. When use with Medisign blood glucose meter, Medisign Link software transfers data from the meter's memory into a computer for enhanced data management.

Tip

To get started you'll need:

① Medisign Link setup program supported by Empecs Medical Device's Website

② Medisign Link USB Data Cable

③ Medisign Blood Glucose Meter

1.2 Connecting your meter to your PC

To install

Before starting the installation, please check whether your computer meets the system requirements.

How to connect your meter to your computer via the USB data cable

Your computer must meet certain minimum requirements to ensure trouble-free operation of Medisign Link diabetes management software.

System Requirements:

· OS : Microsoft Windows 7(32-bit/64-bit) or later
· RAM : Minimum 512MB
· CPU : Minimum 500Mhz Intel Pentium Processor or higher
· Free hard disk space : Minimum 60MB
· Monitor : Minimum 1024x768 pixel resolution
· Interfaces : USB port, Printer to print report(optional), Medisign Link USB data cable

Empecs Medical Device Corporation provides you free Medisign Link-Diabetes Management Software download from Empecs Medical Device website. URL: http://www.empecs.com

To install Medisign Link Software:

[1] Turn on your computer. To execute the download file, Click "Setup" button and the setup program usually starts automatically.

[2] Medisign Link setup wizard screen shows. Click "Next" button to continue the installation. If click "Cancel" button, this software will stop to install.

[3] Select Installation folder screen shows. Accept the suggested destination folder or click "Browse" to specify another location. Then click "Install" button to start installation.

Tip

IMPORTANT: Use only the Medisign Link USB data cable to connect your meter and your PC. Do not use any other cables to connect your meter.

[4] The confirm installation screen displays. Click "Finish" button.
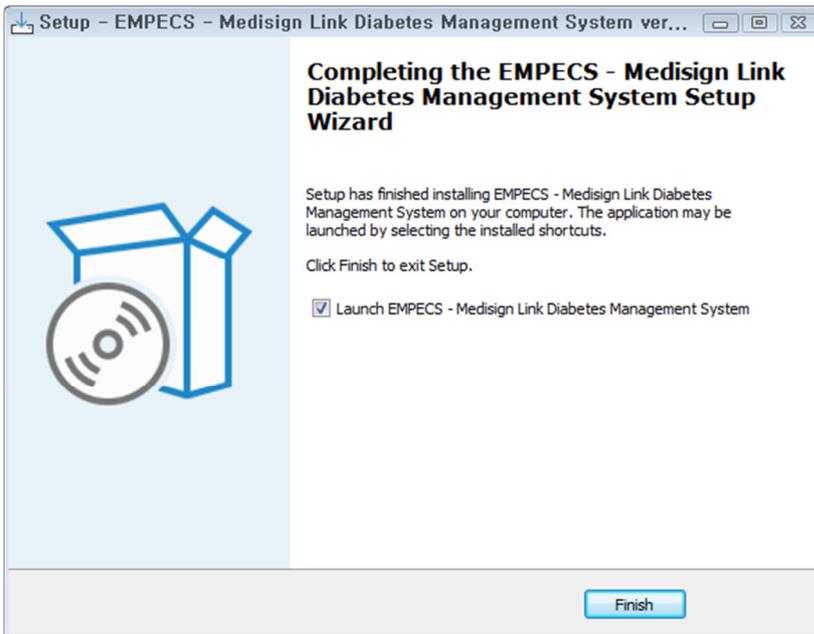
[5] Once the installation is successful, next USB virtual driver wizard screen shows. Click "Next" button to continue installing the USB driver. If the USB driver is already installed on your PC, please click the "Cancel" button.
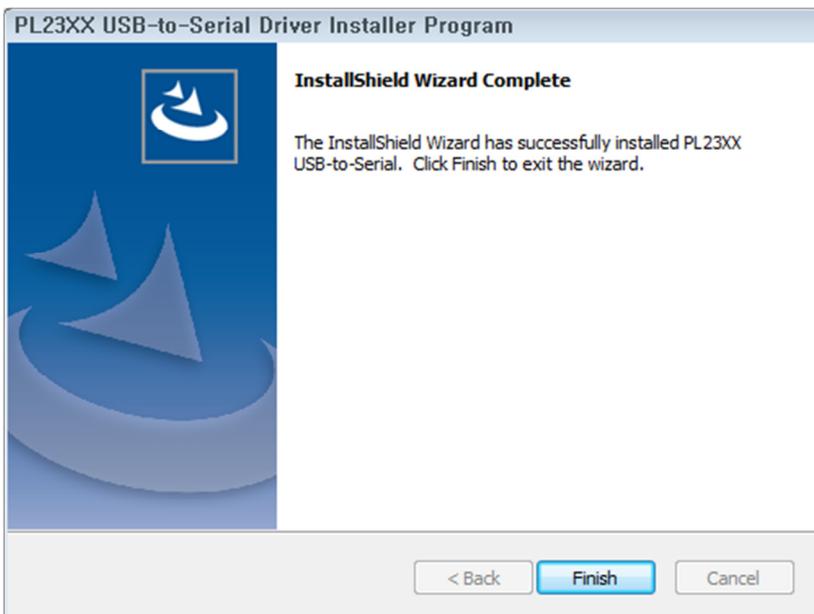
[6] Continue to "Next" to complete the USB driver. This will bring you to the "Install Shield Wizard Complete" window. Click the "Finish" button to exit the setup wizard.

Tip	**Warning:**
	The meter functions, such as blood glucose testing and memory features, will be disabled when connected to your PC. Do not attempt to perform a blood glucose test with you meter while it is connected to your PC.

Connecting Meter

How to connect your meter to your computer via the USB data cable.

Before you download the historical data from the meter to your PC or before you do the instrument setting, you have to connect the meter to your PC according to the following steps:

[1] Make sure that you have installed Medisign Link Software on your computer

[2] Make sure that your meter is turned off.

[3] Insert the rectangular cable end into your computer's USB port.
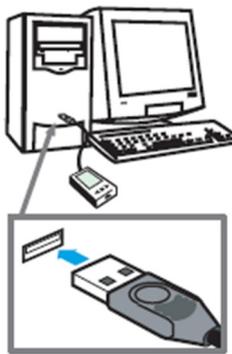
[4] Insert the round cable end into the glucose meter data port, located at the top or side of your blood glucose meter.

[5] When the meter is turn on, "PC" will be shown on the blood glucose meter. The communication between the meter and your PC is ready.

Tip

Upon insertion of the cable, your computer will indicate that the cable has been detected for drivers.

1.3 Setting default glucose target range

<table>
<tr><td>

Registration & View

</td><td>

Click on the "**Preferences**" on the menu bar and move to "**Default Glucose Target Ranges**" menu.

① In figure 1, Enter your meal time and blood glucose target range on the screen.

② Click on the top of the "Save" button, then the registration will be completed.

</td></tr>
</table>

This is menu for registration, modification and view of Setting default glucose target range.

Default Glucose Target Ranges

1. The ending time of the each interval should be always the same with the starting time of its next interval.
2. When you change the ending time from each interval, this program automatically updates the starting time from next interval.

Save   Close

Time Periods	Breakfast	Pre	06:00	~	09:00
		Post	09:00	~	11:00
	Lunch	Pre	11:00	~	13:00
		Post	13:00	~	16:00
	Dinner	Pre	16:00	~	19:00
		Post	19:00	~	21:00
	Night		21:00	~	06:00

Target Ranges	Pre meal	80	~	120
	Post meal (2hrs)	80	~	160
	Night (Sleep)	100	~	140
	Normal Range	70	~	140
	Hypo/Hyper Values	50	/	240

Picture 1 - Display for setting default glucose target range

Tip	① The setting can be registered only once and cannot be deleted.
	② At setting meal time, the ending time of the each interval should be always the same with the starting time of its next interval.
	③ There should not be a space of time during 24 hours.
	④ Setting won't be completed when you enter the same range of time again.

1.4 Setting COM Port

<table>
<tr><td>

Registration
& View

</td><td>

Click on the "**Preferences**" on the menu bar and move to "**Set COM port**" menu.

① In Figure 2, you can bring the port currently installed on your PC when you click on the "Import COM Port" button.

② Select Port.

③ Press the "Save" button below, then connection will be completed.

</td></tr>
</table>

This is menu for connection, modification and view of Setting COM port
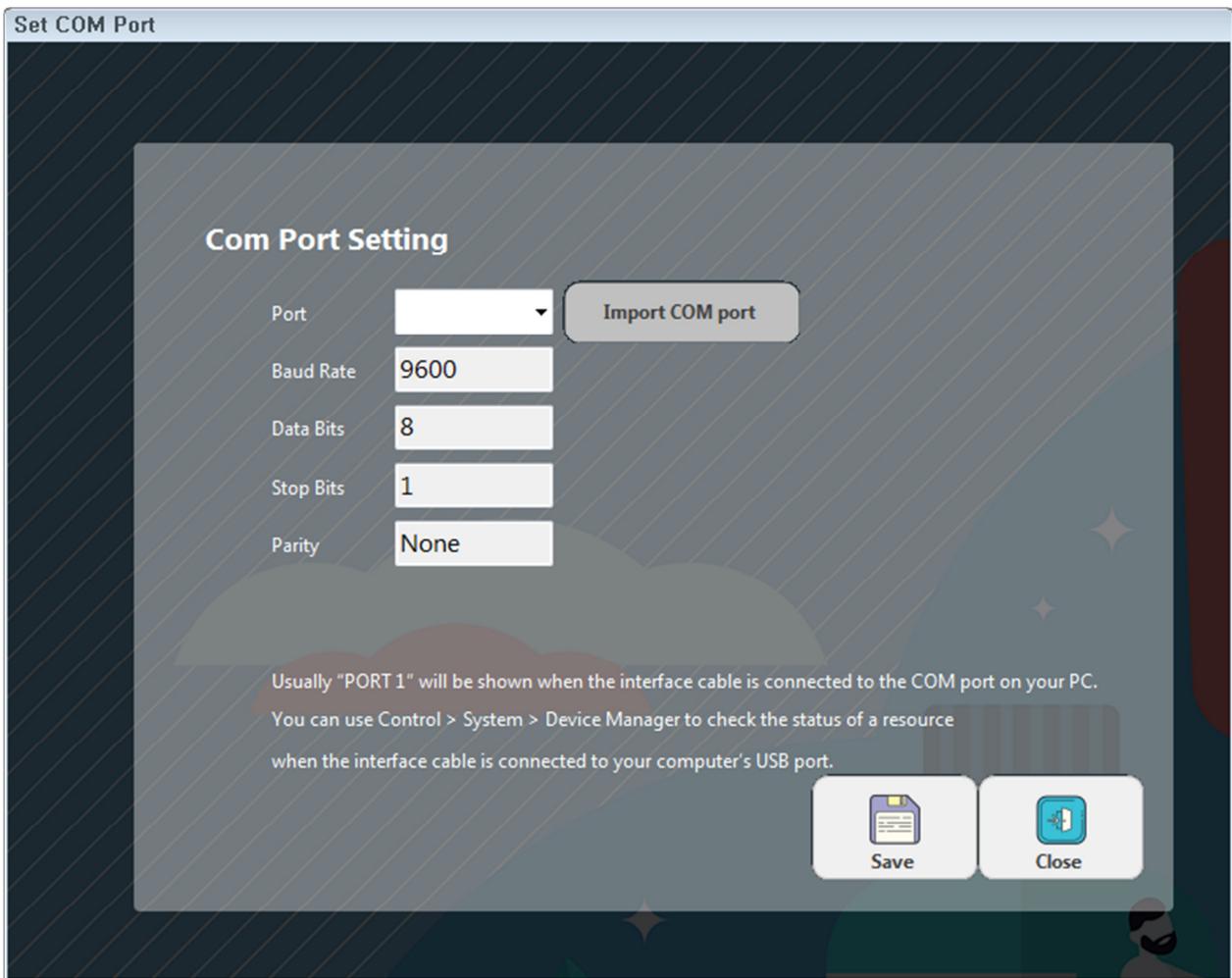
Picture 2 - Display for setting COM port

Tip
① The setting can be registered only once and cannot be deleted.

② You can fine Port information at *Control>System>DeviceManager*.

1.5 Meter Setting via PC

<div>
Setting
Date & Time
</div>

Click on the "**Preferences**" on the menu bar and move to "**Meter Settings**" menu.

① Connect your meter to computer.

② Click on the "Setting the Meter's Time" button, it will change the date and time of the meter to be the same as the date and time on the computer.

In this menu, it allows you to set up date & time and delete memory for the meter easily on your computer.
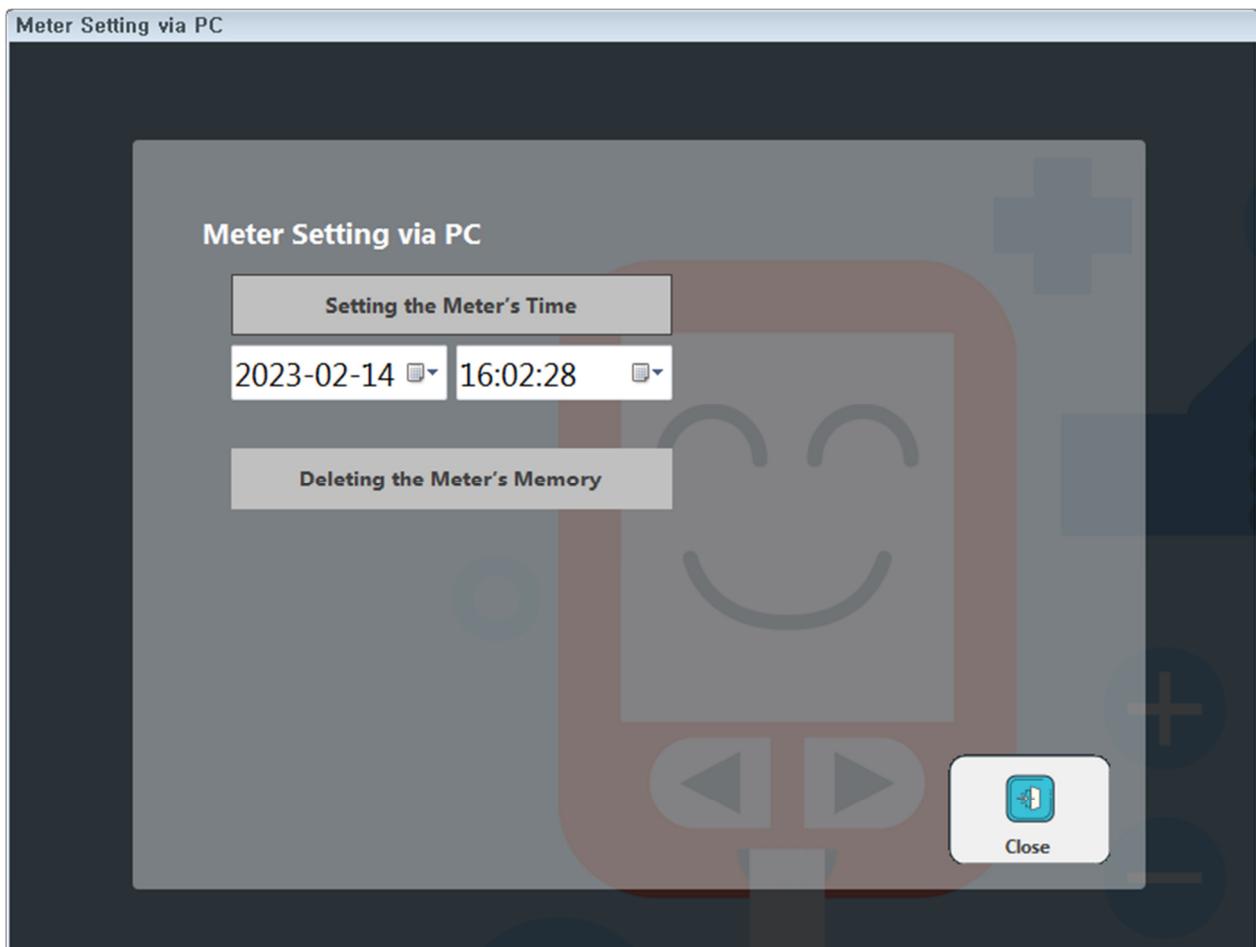
Picture 3 - Display for mete's time setting via PC

Tip ① Refereed date and time is as set for the PC

Deleting Memory	Click on the "**Preferences**" on the menu bar and move to "**Meter Settings**" menu. ① Connect your meter to computer. ② Click on the "Deleting the Meter's Memory" button, the memory stored in the meter will be deleted.
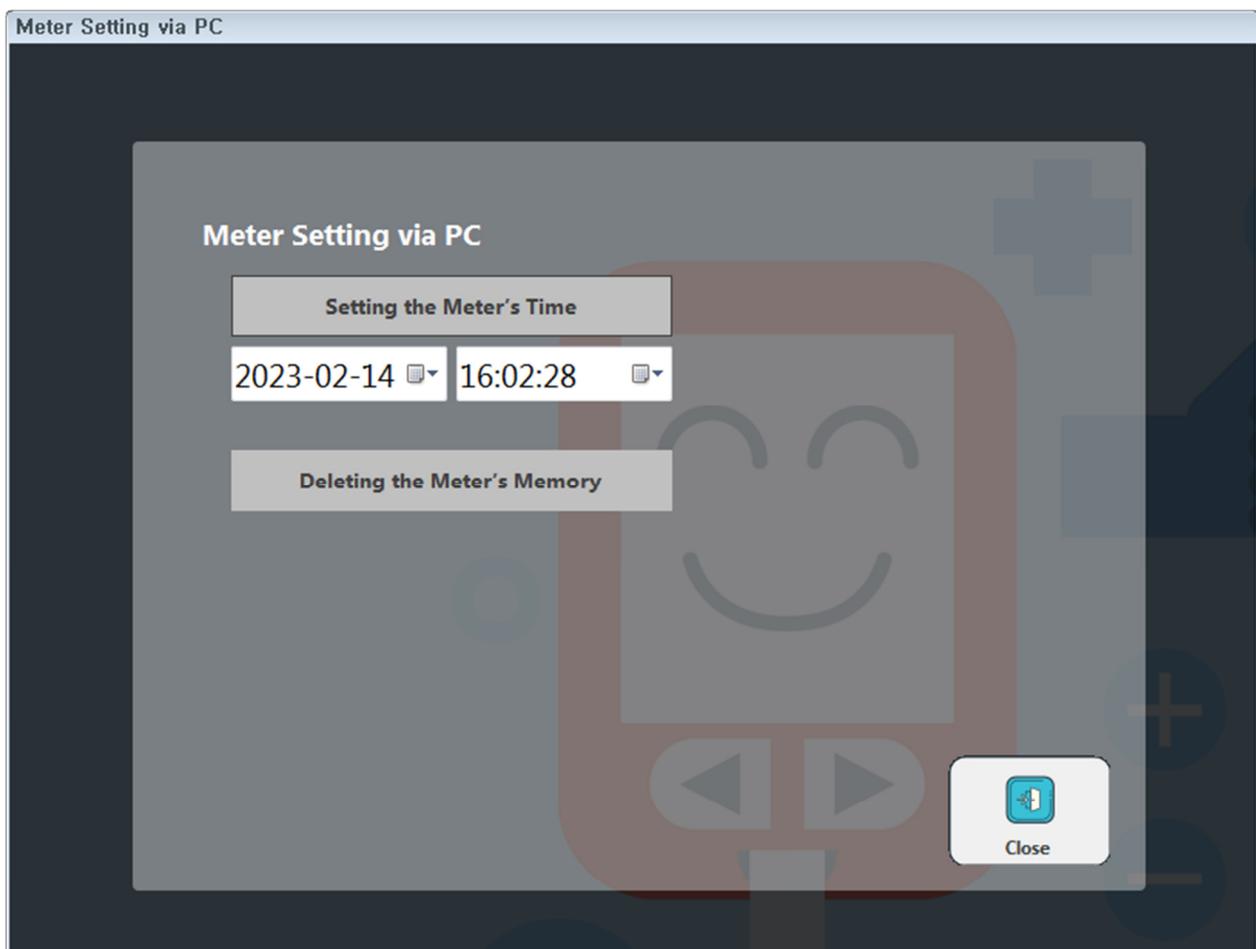
Picture 4 - Display for meter's memory delete via PC

Tip ① Deleting the meter's memory will not affect the current memory stored on your PC.

Chapter2
User and Patient Profiles

2.1 Managing user and patient profile

2.1.1 Adding user and patient profiles

<table>
<tr><td>Registration</td><td>

Previous Step | Setting glucose target range

Click on the "**User (Patient) Profile**" on the menu bar

① If you click on the "New" button, the inputting items are initialized.

② Name and date of birth must be inputted.

③ Click on the "Save" button in personal glucose target range tab to finish this registration, after entering the details.

</td></tr>
</table>

Managing user or patient's information

Picture 5 - Display for User and Patient Profiles

<table>
<tr><td>Tip</td><td>

① ID will be generated as YYYYMM (year and month) + sequence (4 digits).

You can see the registration in each month.

② Registered user (patient) cannot be erased.

③ In storing, your personal glucose target range is stored. So you should set default glucose target ranges

</td></tr>
</table>
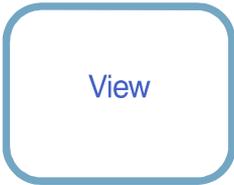
<table>
<tr><td>

View

</td><td>

Previous step | Adding user and patient profile

Click on the "**User (Patient) Profile**" on the menu bar

① This function is to search for the current registration's basic information.

② Put the period and search conditions (Name, ID, Birth).

③ Click on the "Search" button within the left side of the window, you can see user or patient list screen displays.

④ Click on any of the users (patients) or move up/ down, you can see the information on the right tab.

</td></tr>
</table>

Picture 6 - Display for User or Patient List

<table>
<tr><td>

Tip

</td><td>

① You can sort the user list according to sorting condition (Name, ID, Birth).

② Default period for searching is set to be last 2 weeks.

③ In searching condition, if you check "total users" in box, all of users are displayed on left side of the window regardless of any time period

</td></tr>
</table>
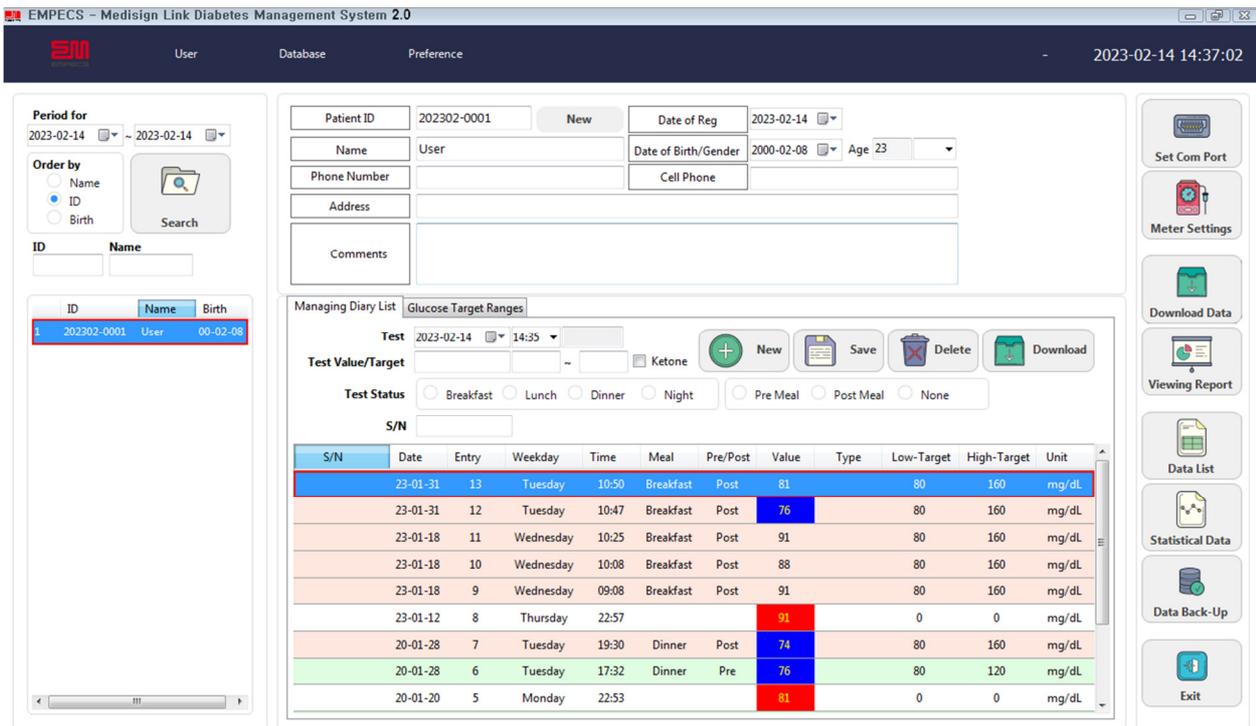
2.1.2 Setting glucose target ranges

Registration

Previous step | Default glucose target ranges, Adding user and patient profile

Click on the "**User (Patient) Profile**" on the menu bar and move to "**Glucose Target Range**" tab.

① Click on the "Glucose Target Ranges" and you can input the items.

② If click on the "Reload Defaults" button, you can see the stored default glucose target range and you can change them.

③ After check the inputting information, click the upper "Save" button. You finish user registration.

Use the glucose target range tab to customize glucose target ranges.
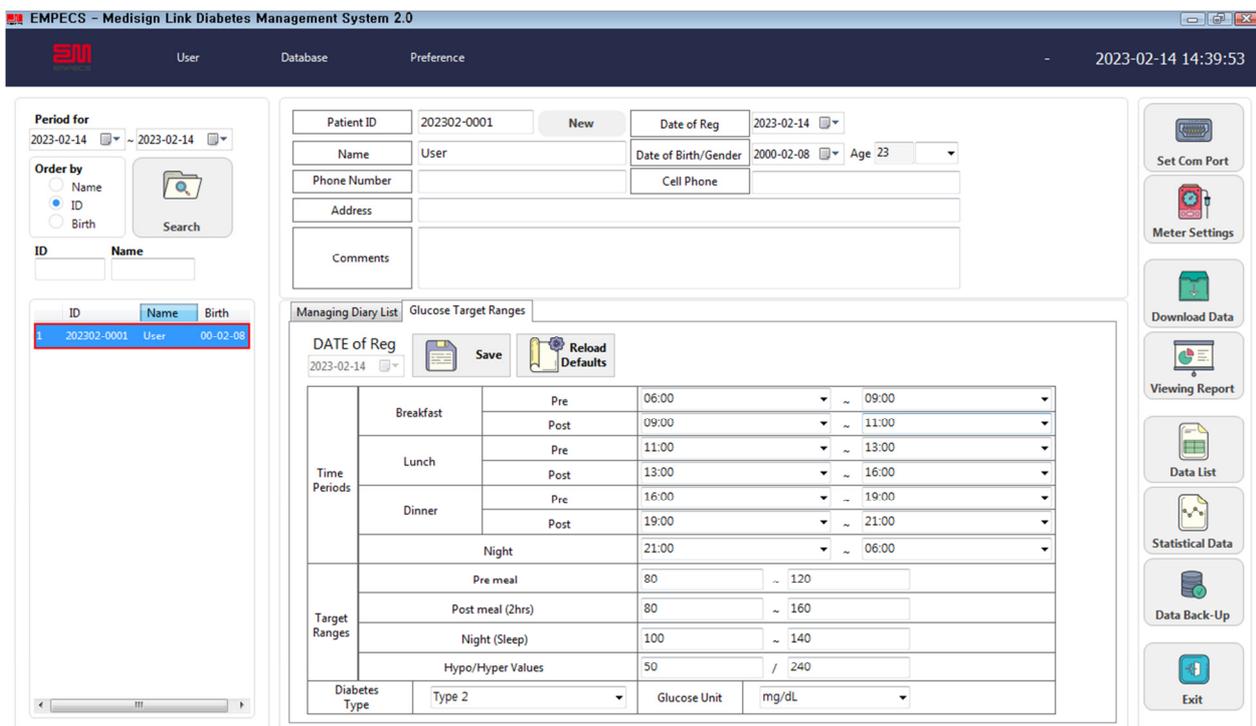
Picture 7 - Display for glucose target ranges

Tip

① Date of registration will be reviewed by last saved date. And it will be saved today's date if there is no history of date of registration.

② At setting meal time, the ending time of the each interval should be always the same with the starting time of its next interval.

③ There should not be a space of time during 24 hours.

④ When you change the ending time from each interval, this program automatically updates the starting time from the next interval.

⑤ If glucose unit is mmol/L, the value divided by 18.02 is displayed.

Updating

Previous step | Default glucose target ranges, Adding user and patient profile

Click on the "**User (Patient) Profile**" on the menu bar and move to "**Glucose Target Range**" tab.

① You may edit and delete personal glucose target ranges.

② Click on "Date of Reg" to review the personal glucose target range. You may view the old date of registration if you saved the glucose target ranges before. Select the desired date from the list.

③ Click on "Save" button to save personal glucose target ranges you set here.
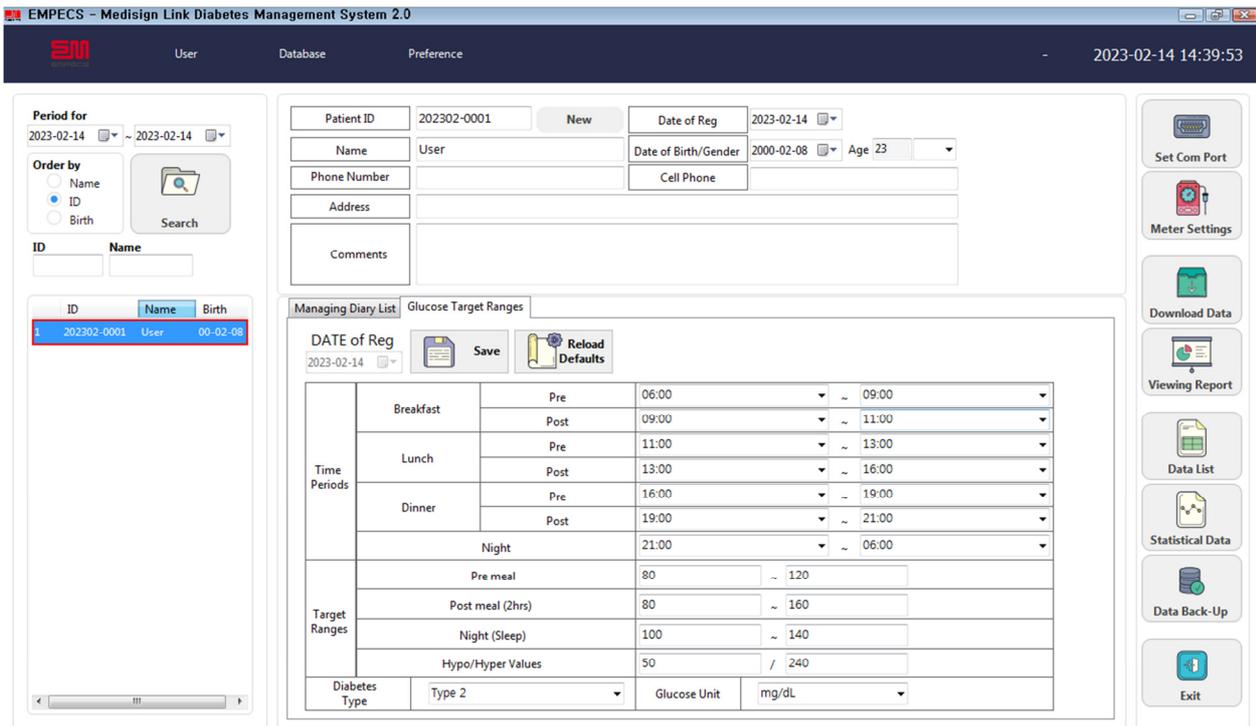
Picture 8 - Display for editing and deleting personal glucose target ranges

Tip	① The "Date of Reg." drop down menu may be sorted by date from most recent to oldest including today date.
	② You cannot delete the target range when only one target range is left on each person.
	③ The past target range will not be updated even you edit current target range. Edited target range will be applied to new targets.
	④ Click on the "Reload Defaults" button to change the default glucose target ranges.

2.1.3 Managing Diary List

<div style="border: 1px solid #5b9bd5; border-radius: 20px; padding: 10px;">
Registration
</div>

Previous step | Default glucose target ranges, Adding user and patient profile

Click on the "**User (Patient) Profile**" on the menu bar and move to "**Manage Diary List**" tab. On the "**Manage Diary List**" menu you can add new glucose reading records

① Click on the "New" button to add new record. Then new filed will be activated.

② Choose test date and input the glucose reading value and test status.

③ Click on the "Save" button on the tab to save the current records and finish the work.

You can manage dairy glucose list.
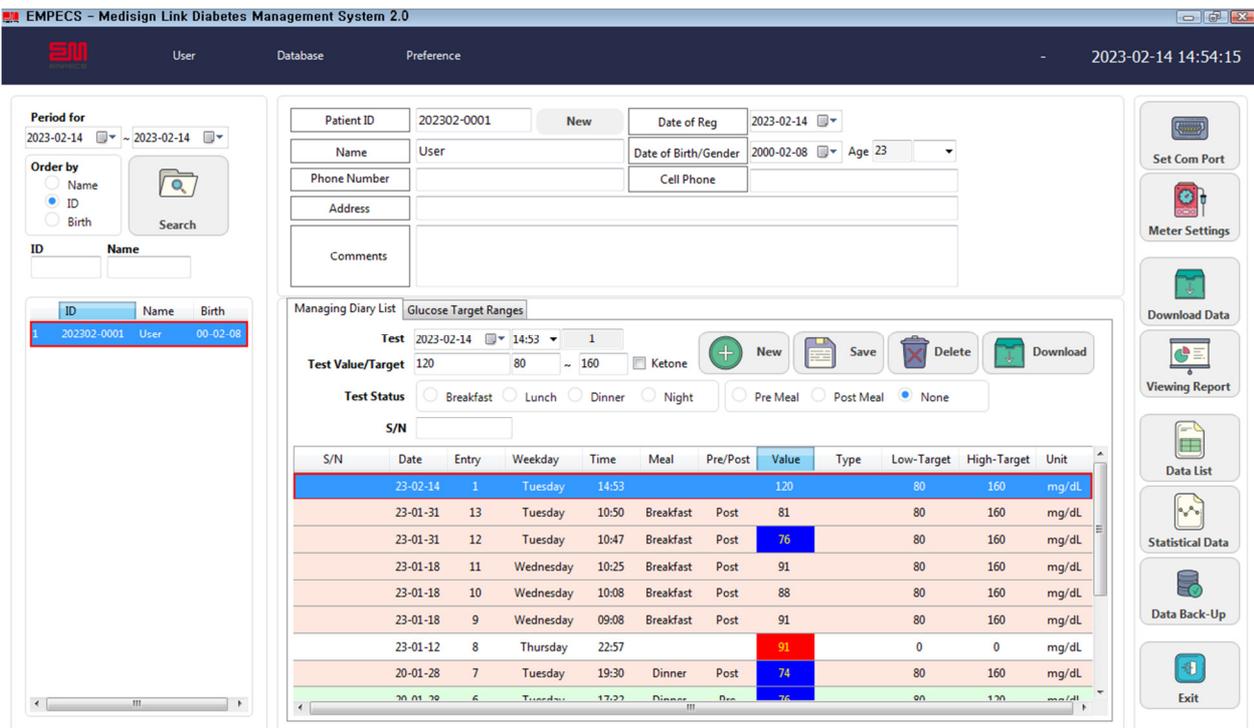
Picture 9 - Display for view glucose diary list

Tip

① Test number is saved as serial number "YYYYMMDD" with following four sequence numbers. The sequence number let you know the number of tests on each day.

② Test time saved automatically as the time of computer.

③ The glucose values are displayed in unique colors(RED, BLUE) for easy viewing according to preset glucose target range and test status of reading.

Previous step | Default glucose target ranges, Adding user and patient profile

Click on the "**User (Patient) Profile**" on the menu bar and move to "**Manage Diary List**" tab. On the "**Manage Diary List**" menu you can add new glucose reading records

① If you enter an incorrect result, then click on the incorrect reading on the dairy glucose list.

② Information will be displayed on the top of the diary "Managing Diary List" tab. To change the date, value, status of test, enter new data.

③ Click on the "Save" button to save your edited records

④ When you want to delete records, click on the "Delete" button to remove records

Picture 10 - Display for the editing and removing glucose result

Tip
① You can change glucose readings, target range and test status, except for the test time.

② Click on the "New" button to save new records on the same date.

③ The glucose reading records on today is listed as the default setting list.

2.2 Download data from meter

2.2.1 Downloading data

<div>
<div style="border:2px solid #6ba3c9; border-radius:15px; text-align:center;">
Download
</div>
</div>

Previous step | Connecting meter to your PC, Setting default glucose target range

Click on the "**User (Patient) Profile**" on the menu bar and find "**Download Data**" menu or you can access from "**Preference**" on the menu bar.

① Connect the meter to your PC.

② Click on the "Download Data" button to transfer data from meter.

③ Test date, time, glucose readings are transferred to PC.

④ Test date, test status are calculated automatically and showed on the display of chart.

⑤ The glucose reading graph for Pre-Meal can be different from the glucose reading graph for Post-Meal.

Display for the transferring data from meter.
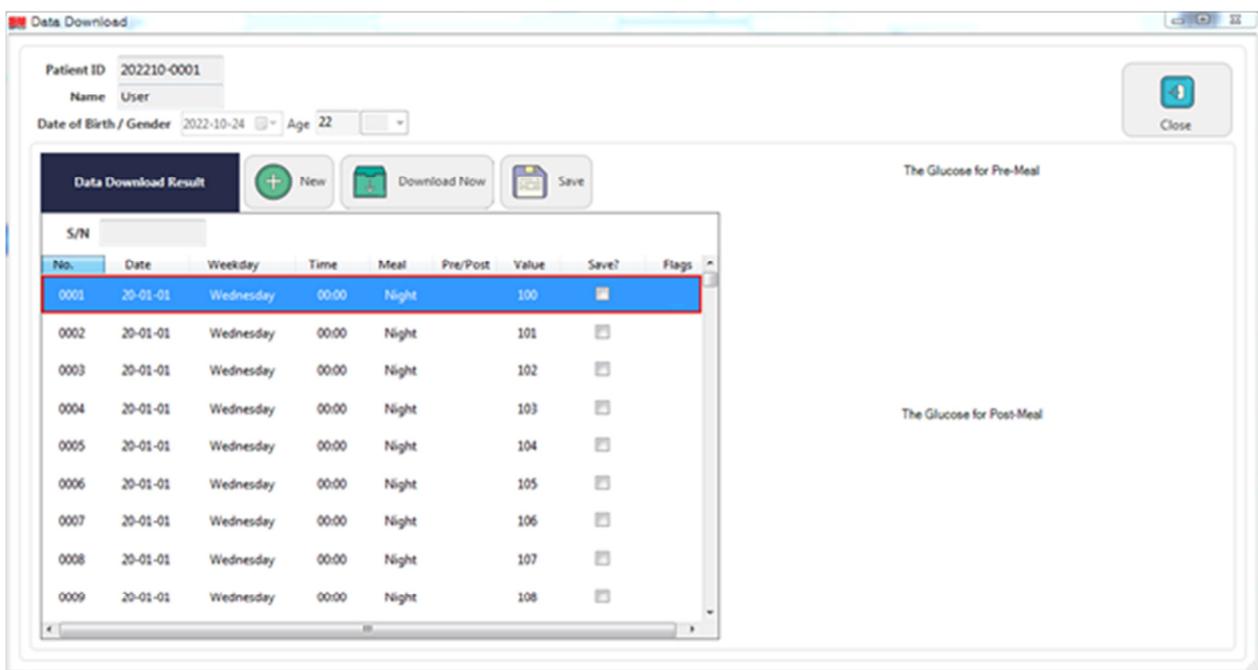
Picture 11 - Display for the Downloading data

Tip

① Download process cannot be proceeded without complete step "Setting user and patient profiles"

② The "Download Data" window will be closed automatically, when the "set COM port" is not set properly.

③ All data from the meter transferred to PC once the "Download Data" process begin whether glucose reading records are saved or not. The test status will be recalculated automatically.

2.2.2 Saving download data

Registration

Click on the "**User (Patient) Profile**" on the menu bar and find "**Download Data**" menu or you can access from "**Preference**" on the menu bar.

① Click on the "Save" button to confirm the data from meter.

② When completing transmission, all data will be shown on the screen. For "Save?" column, if the data is first time transferred, "OK" is shown.

Display for saving data from meter
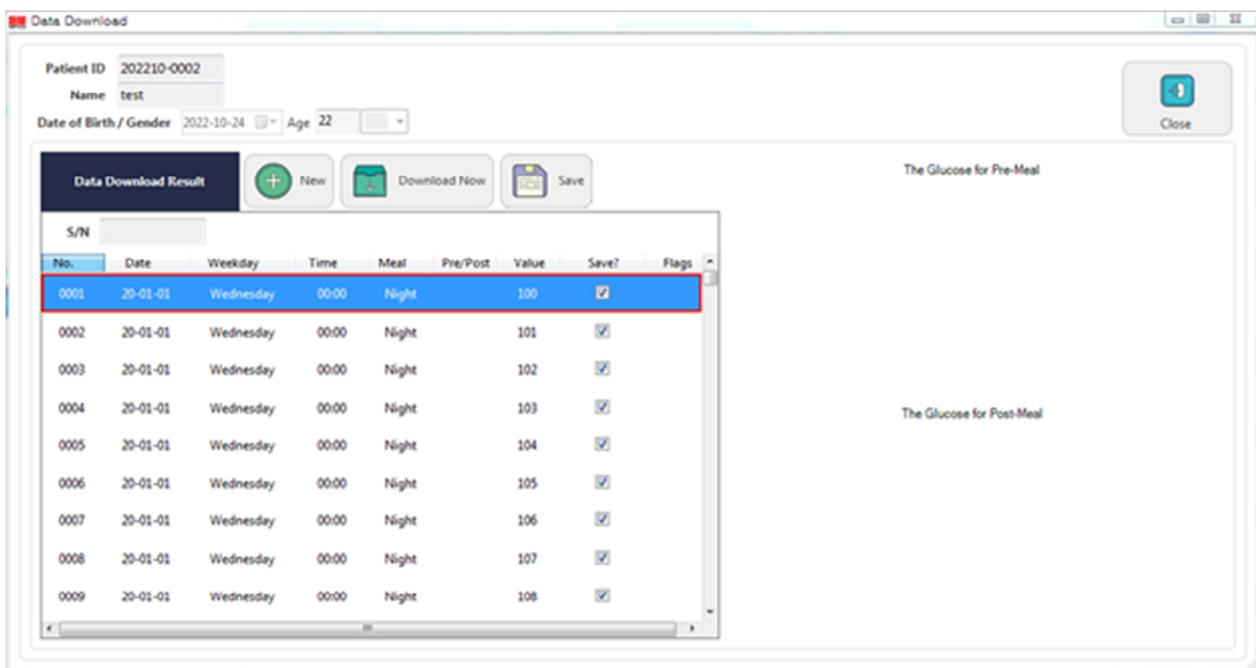

Picture 12 - Display for the screen of saving download data

Tip
① Already saved download data can be edited for test status (Pre/Post Meal).

② Editing or removing glucose results to manually entered data can be made by accessing the "**User and Patient Profile**" > "**Managing Diary List**" tab.

2.3 Viewing Reports

2.3.1 Searching Reports

Data uploaded from diary list can be displayed on the screen in a variety of ways. Statistical and other calculations are automatically performed on the data, and the results are put into table and graphs.
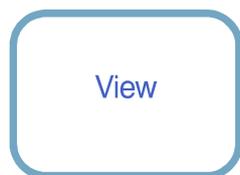
<table>
<tr><td>View</td><td>

Previous step | Setting user and patient profiles, Downloading data

Click on the "**User (Patient) Profile**" on the menu bar and find "**Viewing Report**" menu

① It is a function which can search currently chosen user (patient)'s dairy list.

② To select a specific date range, enter dates in the calendar range selection tool. Or select any time period (such as last 14 days or last 100 days) in the data range list.

③ If you click the upper "Search" button, you can view a diary list.

</td></tr>
</table>

You can search, view and print report

Picture 13 - Display for the screen of searching reports

Tip	
	① You can choose the time period of which are last 14 days, 30 days, 60 days and 100 days.
	② Being set up to last 14 days for default, the time period can be altered.
	③ Glucose reading are separated into target ranges, which are represented in distinctive colors. Each target range is associated with a unique color : Above Target(Red), Below Target(Blue).

<table>
<tr><td>

Graph

</td><td>

Click on the "**User (Patient) Profile**" on the menu bar and find "**Viewing Report**" menu

① Statistical and other calculations are automatically performed on the data, and the data can be displayed on the screen in a variety of ways.

② To display a report, click the desired tab on the reports tab bar.

</td></tr>
</table>
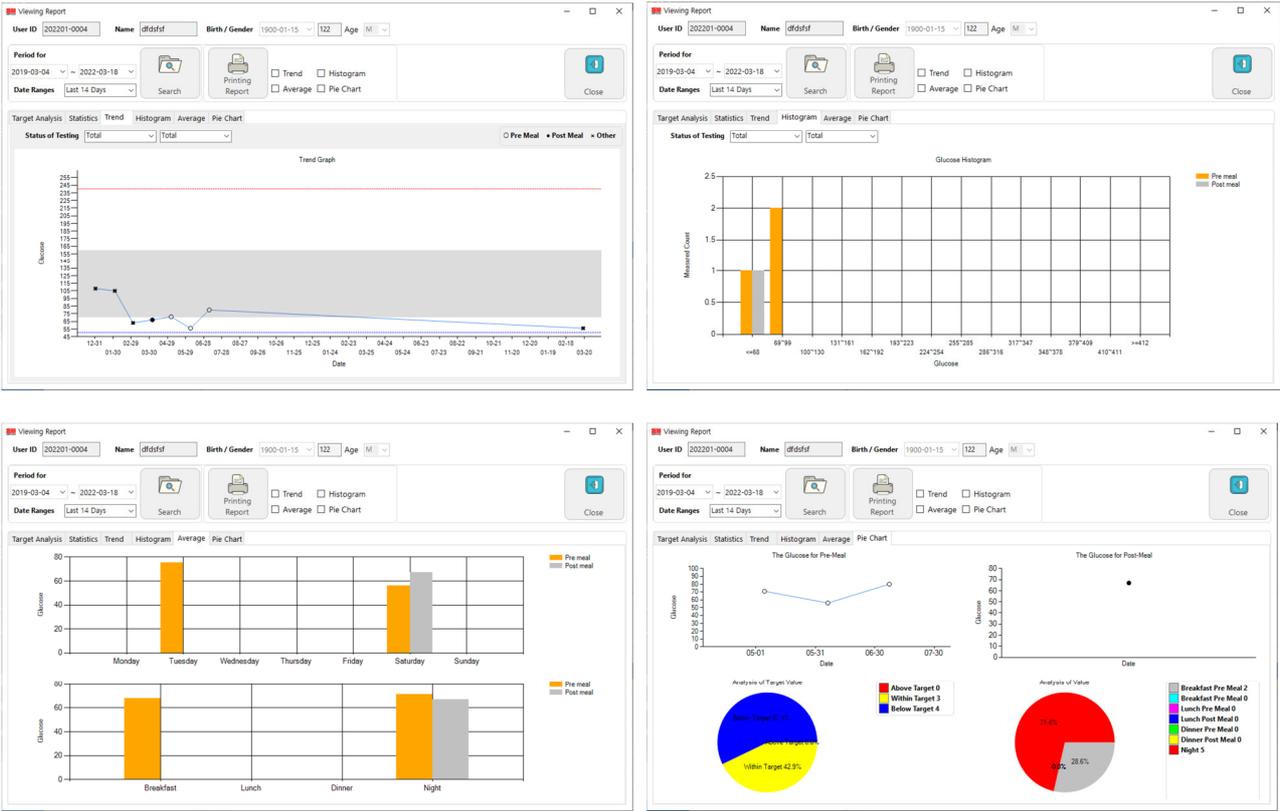
Picture 14 - Display for the screen of various viewing reports

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Tip

① There are four kind of report tab bar such Trend, Histogram, Average and Pie Chart for Pre/Post meal.

② In case of trend graphs, if you click one of the apexes, you can search the detailed data.

③ According to status of testing, you can analyze the graph, immediately.

2.3.2 Printing Reports
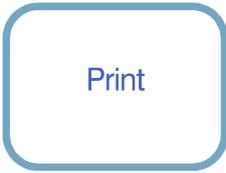
<table>
<tr><td rowspan="2">Print</td><td>Previous step | Searching Reports</td></tr>
<tr><td>Click on the "**User (Patient) Profile**" on the menu bar and find "**Viewing Report**" menu.</td></tr>
</table>

① It is a function to print the report in its currently displayed format.

② The printing report option is on the upper-right. You can select your preferred report you want to display in check box.

③ If you click the upper "Printing Report" button, reports are printed out.

The report prints on your printer.
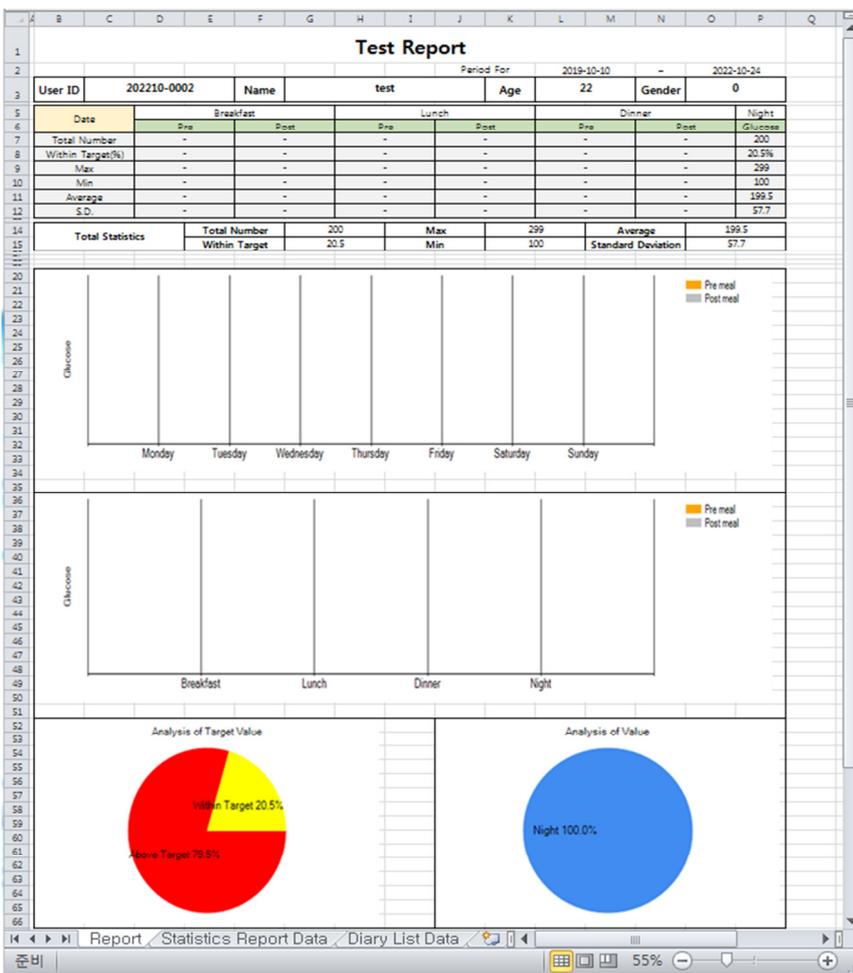
Picture 15 - Display for the screen of viewing and printing reports

Tip	① You can choose 4 kinds of graphs being going to print out which are composed of Trends, Histogram, Average, Pie Chart.

Chapter3
Database Management

3.1 Data List

Click on the "**Database**" on the menu bar and move to "**Data List**" menu.

Searching

① You have to select date-range intervals. To select a specific date range, use the down arrows to open the calendar.

② You can select your search condition in check box.

③ Click on the "Search" button to search data according data range and condition.

④ To export EXCEL format, Click on the "Export to EXCEL" button.

You can search testing results during specific date range and export it to EXCEL format.

Picture 16 - Display for Data List

Tip ① Searching conditions are composed of User, Tester and Check-Up.

② Each target range is associated with a unique color: Above Target (Red), Below Target (Blue).

3.2 Statistical Data

Searching

Click on the "**Database**" on the menu bar and move to "**Statistical Data**" menu.

① You enter a year and month.

② To search monthly total tester, Click on the "Search" button.

③ If you want to transfer excel format, Click on the "Export to EXCEL" button.

You can search Statistical data during specific date range and export it to EXCEL format.
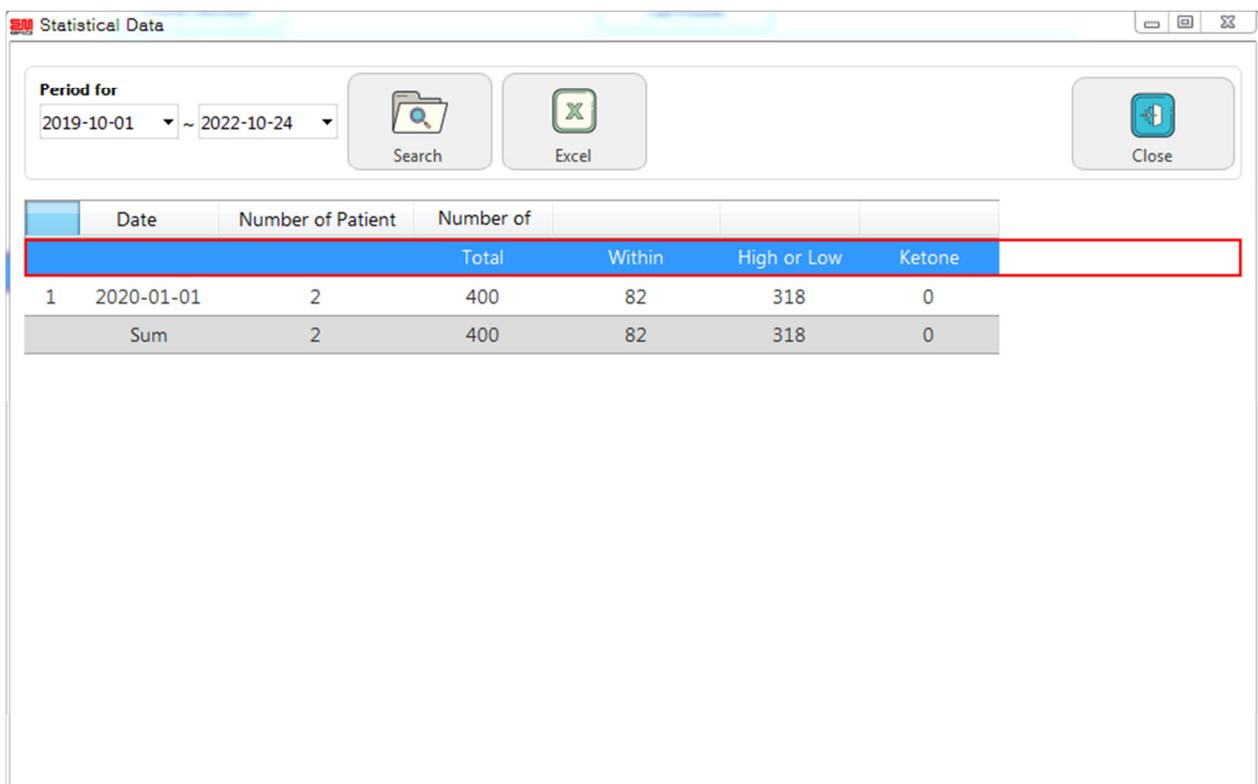
	Date	Number of Patient	Number of			
			Total	Within	High or Low	Ketone
1	2020-01-01	2	400	82	318	0
	Sum	2	400	82	318	0

Picture 17 - Display for Statistical Data

Tip

① It is essential input condition to enter year and month.

3.3 Data Back-up

Backup

Previous step | Setting user and patient profiles

Click on the "**Database**" on the menu bar and move to "**Data Back-Up**" menu.

① Click on the "Data Back-up Now" button to back up the current database.

② A file browser opens.

③ In the Save In field, select the backup location (folder).

④ Enter the File Name and Click Save.

You can save a copy of your current database in a backup file.
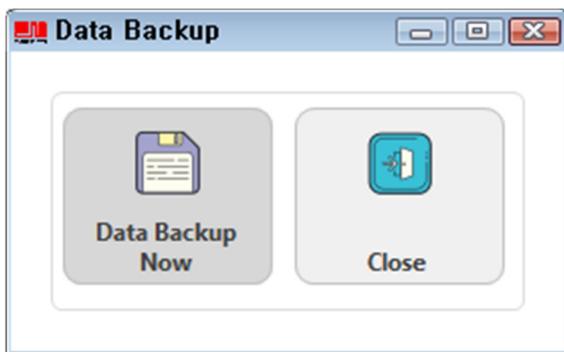
Picture 18 – Data backup

Tip ① As a precaution, you should make a full backup of you Medisign Link database before upgrading your operating system.

3.4 Restore Data

Restore

Click on the "**Database**" on the menu bar and move to "**Restore Data**" menu.

① Click on the "Data Restore Now" button to restore database.

② A file browser opens. In the look in field, select the file location (folder).

③ Select the backup file. (file type is *.sqlite3) Click open.

④ Highlight the *sqlite3 file. The file name appears in file name field. Click open.

⑤ The selected database is restored. If you cancel restore files, click the "Restore Cancel" button.

You can restore data from the last database backup or other database files. If the restore setting reserved, it will take effect after restarting.

It also cancels restore file to click the "Restore Cancel" button

Picture 19 –Data Restore

Tip ① It is a good idea to create a backup database file before you import data.