GQC6 User Manual

Contents

1 Introduction....4

2 Installation Instruction....4

3 Connect to PC and Data Management....9

3.1 Connect to PC....9

3.2 Disconnect the instrument....11

3.3 Data Management....11

3.3.1 Refresh Record....12

3.3.2 Delete Record....12

3.3.3 Clear Record....13

3.3.4 Export to Excel....13

3.3.5 Print Report....13

3.3.6 Import Record....13

3.3.7 Display or Hide a Certain Measurement Angle....13

4 Operating Mode....14

4.1 Basic Mode....14

4.1.1 Measurement....15

4.1.2 Rename....15

4.1.3 Delete Record....16

4.1.4 Search Record....16

4.1.5 Hide or Display Data in Certain Measurement Angle....18

4.1.6 Hide or Display Graph in Certain Angle of the Diagram.....19

4.2 Quality Control Mode....20

4.2.1 Switch to Quality Control Mode....20

4.3 Statistical Mode....21

4.3.1 Switch it to Statistical Mode....21

4.3.2 Measure....21

4.3.3 Interface Operation....23

4.3.4 Quality Control in Statistical Mode....23

5 Tolerance and Standard Setting....24
5.1 Tolerance Setting....24
5.2 Standard Setting....25
5.2.1 Set Current Standard....25
5.2.2 Management Standard....26
6 Data Export and Report Printing....28
6.1 Export Data....28
6.2 Print Report....29
6.3 Print to Word Format....29
6.4 Set Report Information....30
7 Setting....31
7.1 Measurement Angle Setting....31
7.2 Display Setting....31
7.3 Naming Option....32
8 Help....33

1 Introduction

GQC6 software is used to match with gloss meter which has the functions of measurement, data management, quality control, data export and report printing, etc.

2 Installation Instruction

Open installation program, shown in Figure 2-1.

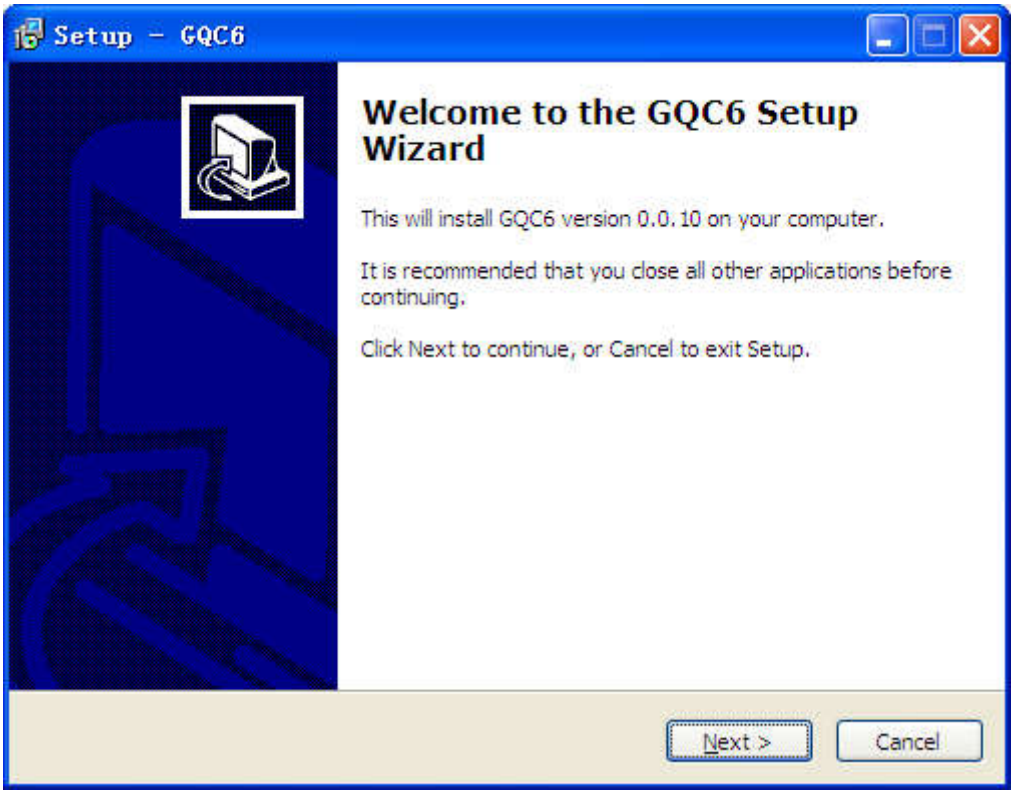


Figure 2-1

Click “Next”, pop up license. Select “I accept the agreement”, click “Next”.

It will pop up a window as shown in Figure 2-3. Users can install it in the default installation location or other installation path. Then click “Next”.

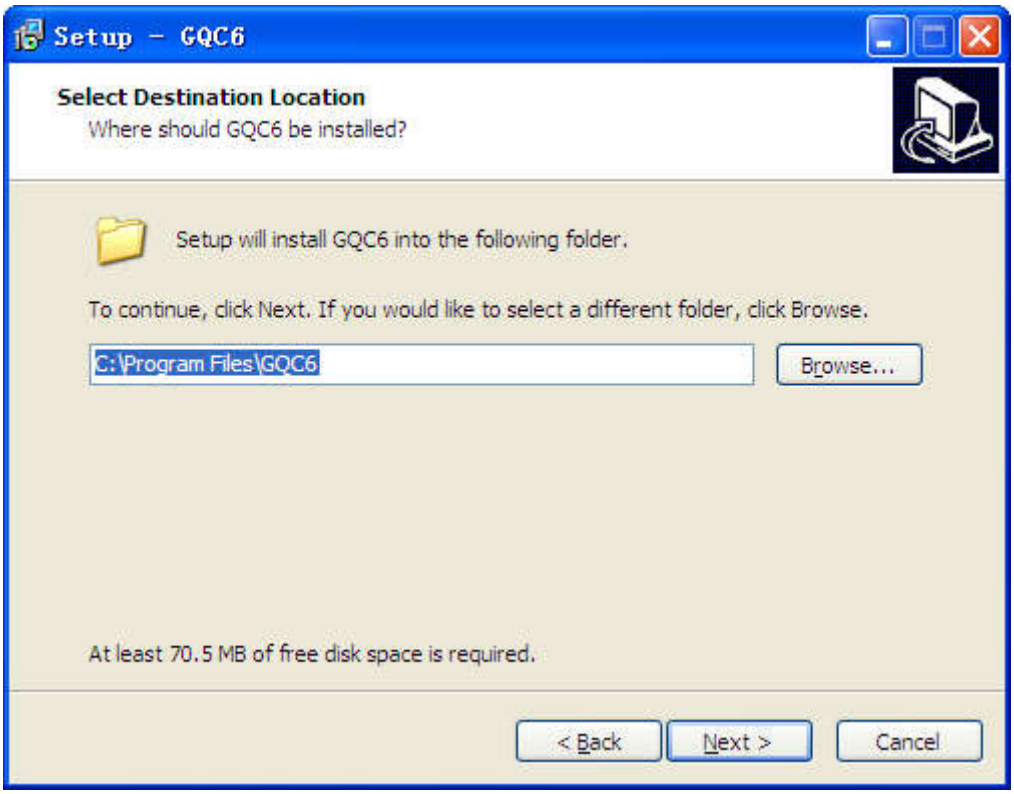


Figure 2-2

After choosing the installation location, click “Next”, it will pop up a window as shown in figure 2-5. Click “Next” to continue.

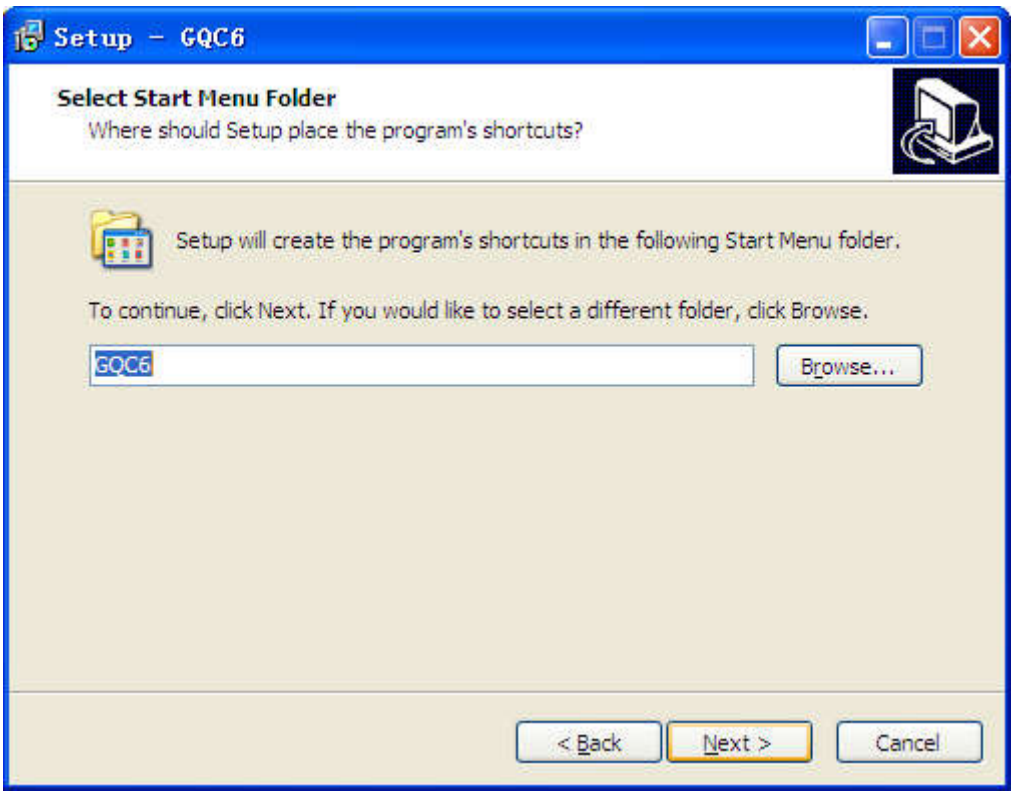


Figure 2-3

In Figure 2-6, users can select “Create a desktop icon”.

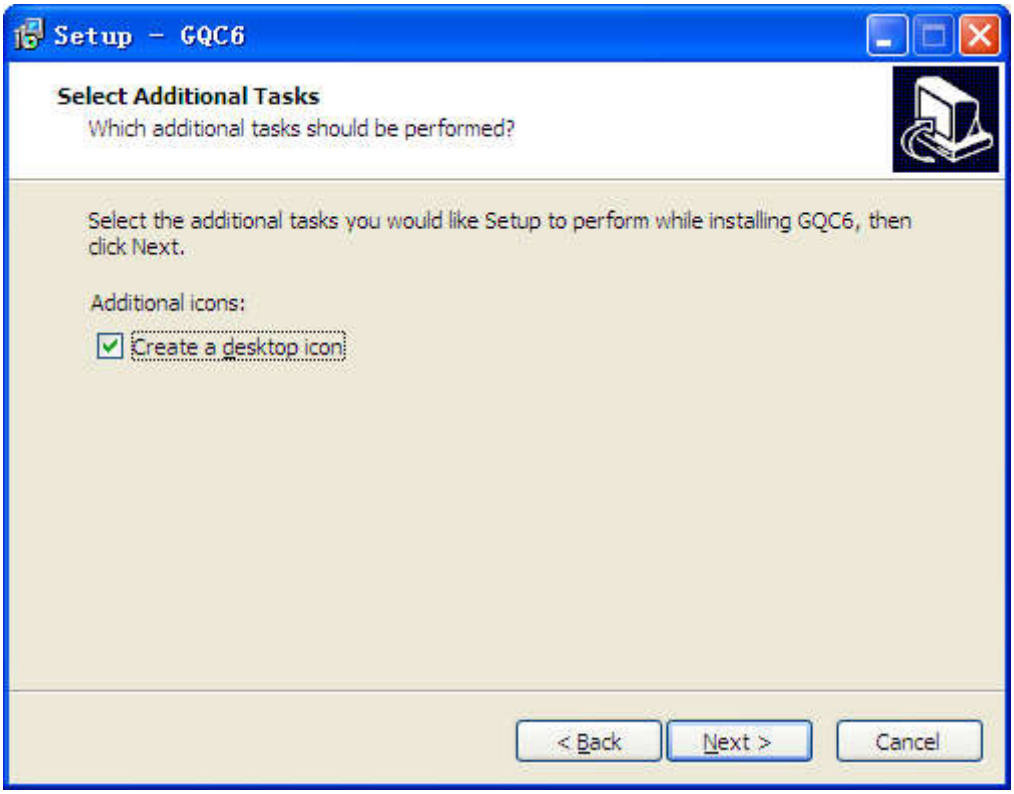


Figure 2-4

Click “Next”, pop up a window as shown in figure 2-7. Click “Install”, the installation procedure is starting.

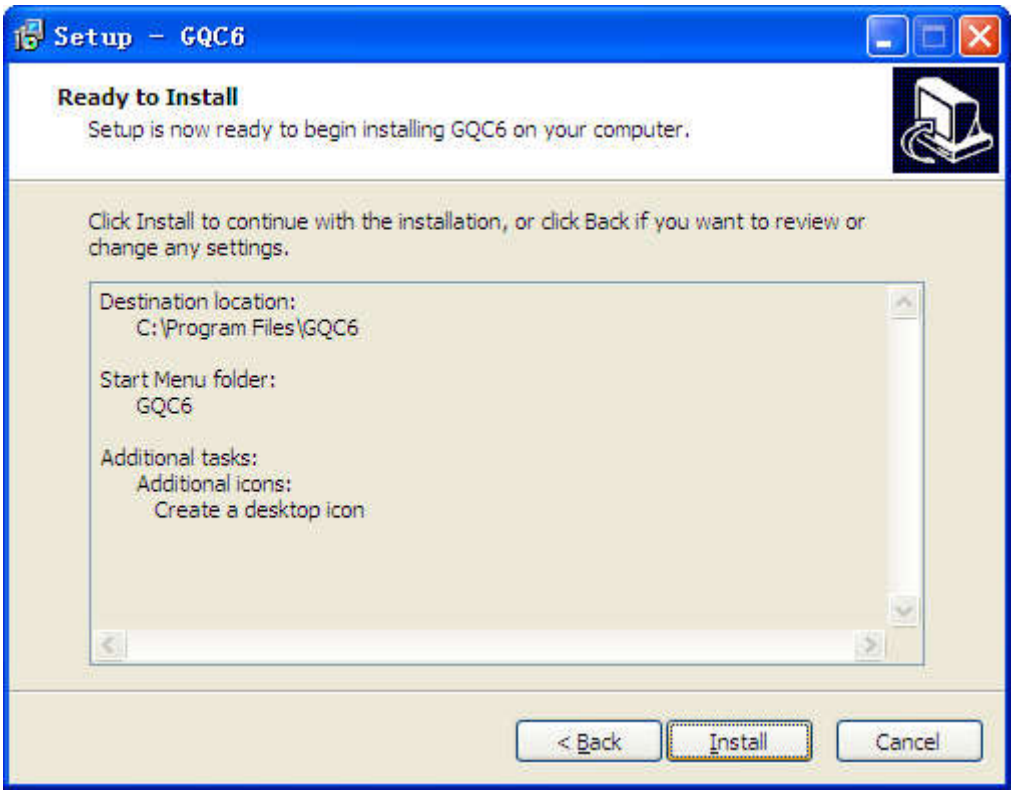


Figure 2-5

The installation progress is shown in figure 2-8.

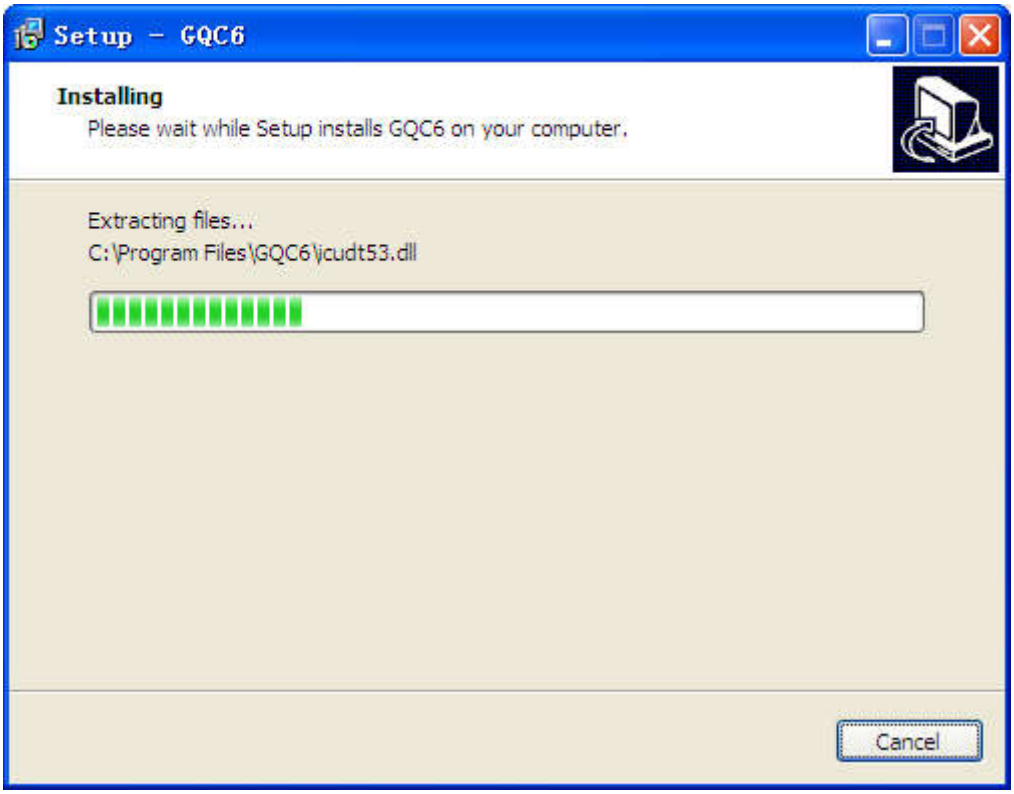


Figure 2-6

It will install drivers when the installation is almost completed, as shown in

figure 2-9.

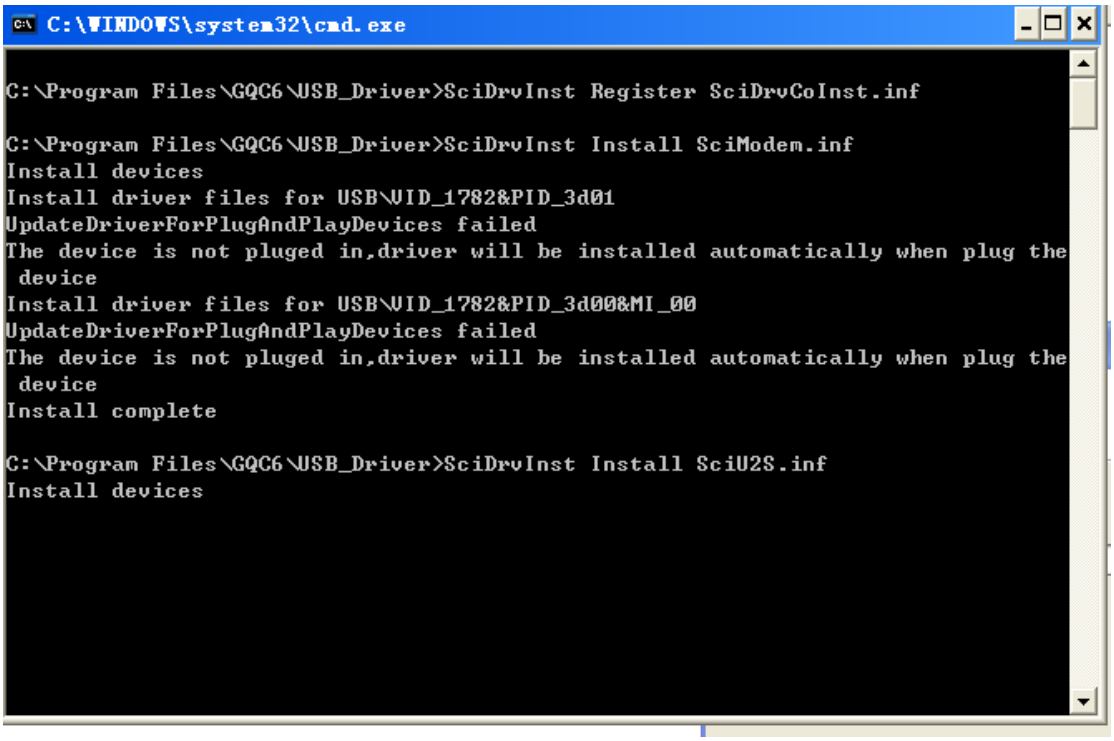


Figure 2-7

It will pop up a window (Figure 2-10) after completing the installation. Then check “Run GQC6 Software” to start GQC6.

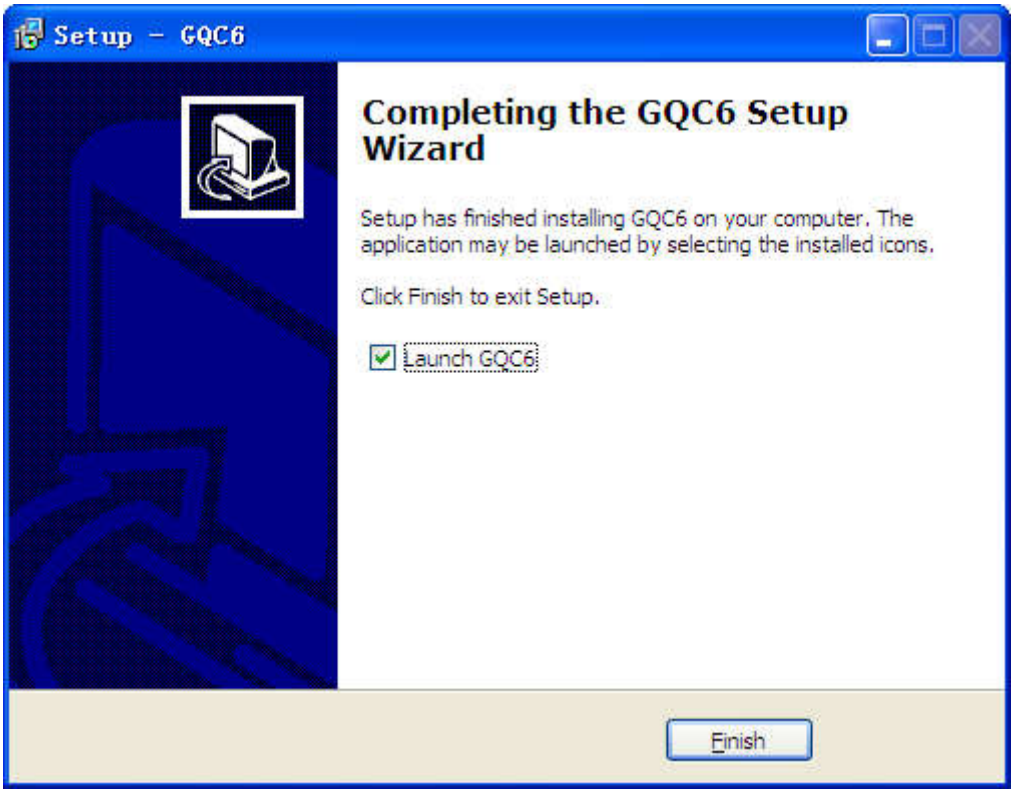


Figure 2-8

3 Connect to PC and Data Management

3.1 Connect to PC

First, connect instrument to PC with USB cable. Turn on the instrument and click “Comm”.

Second, click “Instrument→Status” (Figure 3-1), open instrument status window (Figure 3-2 and Figure 3-3). If the instrument doesn’t connect, the connection status will show “Disconnected” in red. If it connected, it will show “Connected” and display instrument name, version number, etc. Meanwhile, it will show “Disconnect” button.

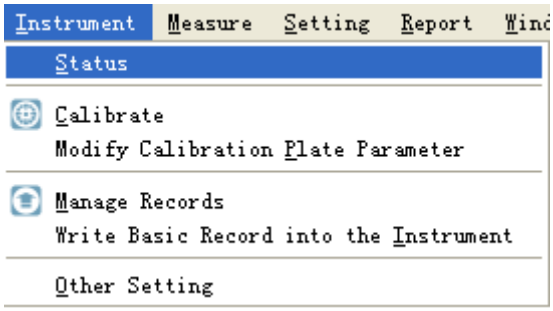


Figure 3-1

Tips: If you have connected the instrument to PC and opened the communication before running GQC6, it will connect to the instrument automatically when you run GQC6. In addition, status bar will show instrument status and calibration information.

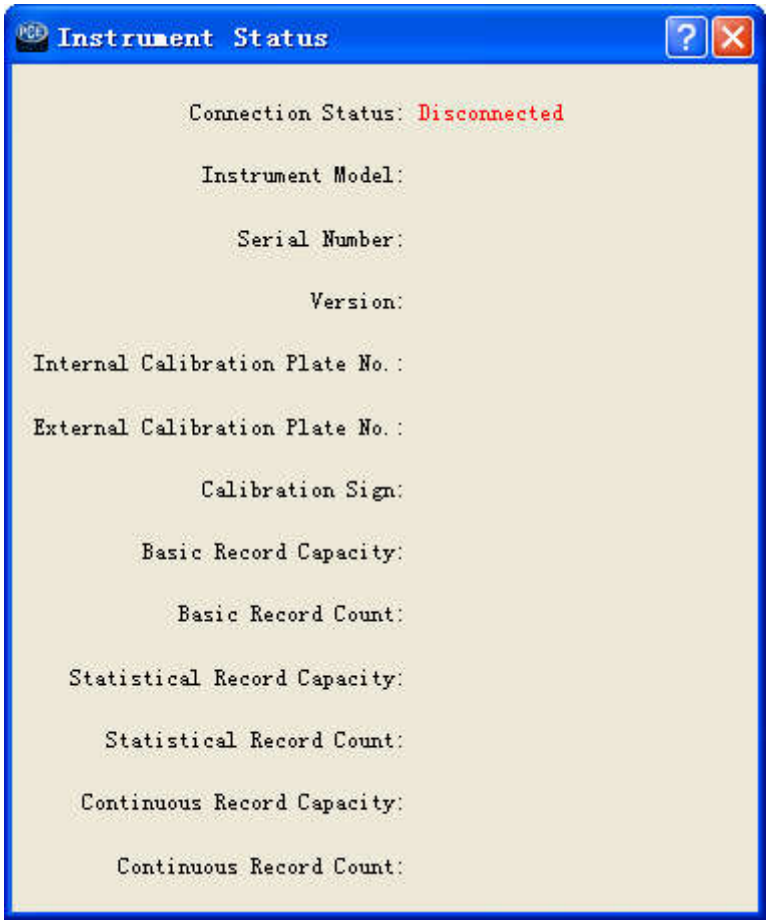

Instrument Status
Connection Status: Disconnected
Instrument Model:
Serial Number:
Version:
Internal Calibration Plate No.:
External Calibration Plate No.:
Calibration Sign:
Basic Record Capacity:
Basic Record Count:
Statistical Record Capacity:
Statistical Record Count:
Continuous Record Capacity:
Continuous Record Count:

Figure 3-2

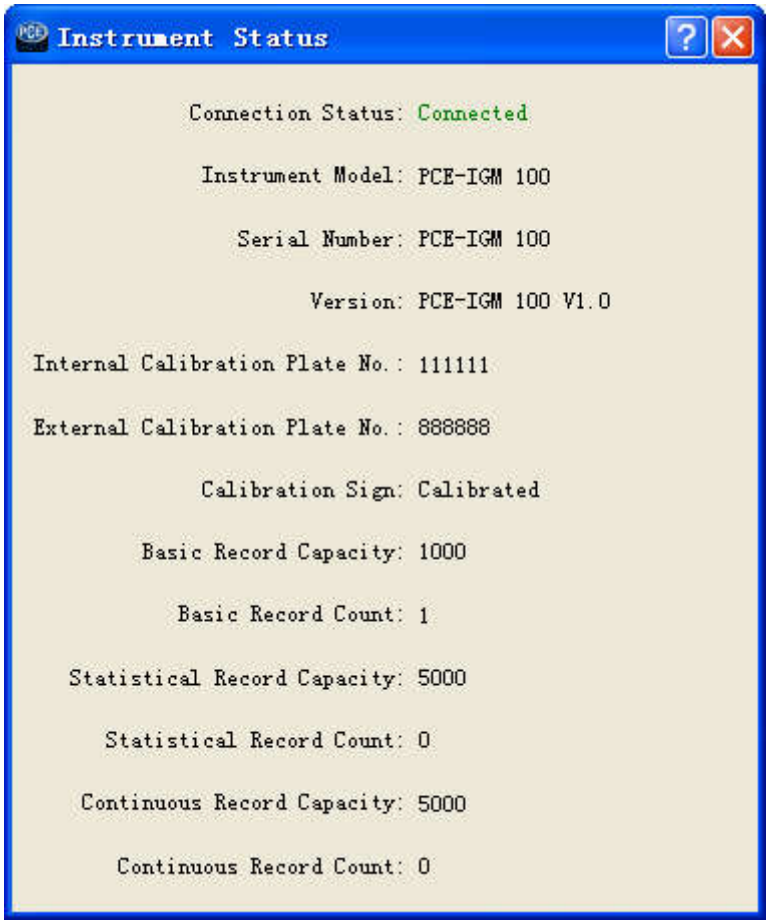


Figure 3-3

3.2 Disconnect the instrument

Click “Instrument → Status” to open the instrument status window. If the instrument is connected, it will show “Disconnect” button. Click “Disconnect” to disconnect the instrument.

3.3 Data Management

Data management is used to import or delete instrument records.

Click “Instrument → Data Management” (Figure 3-4) to open “Manage Records” window (Figure 3-5). You can check records in each operating mode, export data, import data (only available for basic record), print and delete, etc.

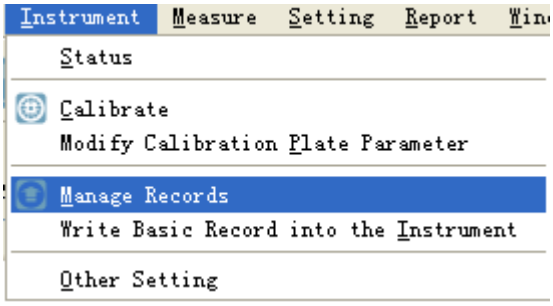


Figure 3-4

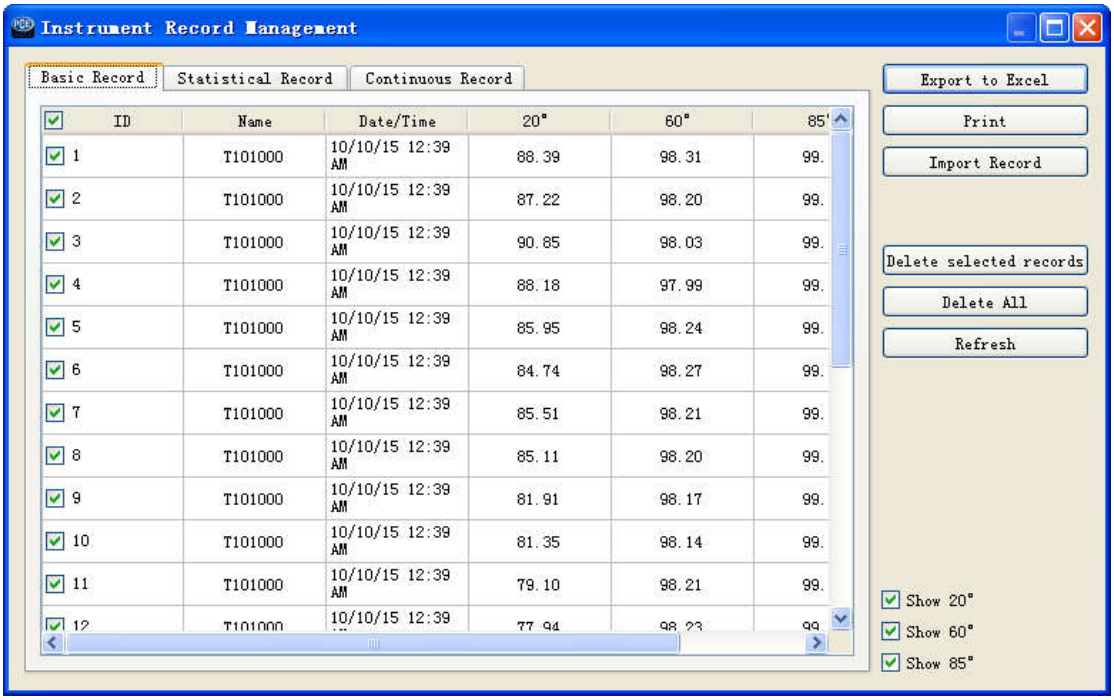


Figure 3-5

3.3.1 Refresh Record

Click “Data Management” → “Refresh Record”. This operation is used to synchronize the record.

3.3.2 Delete Record

Click “Delete Selected Record”, a warning window will pop up as shown in Figure 3-6. Click “OK”, the selected record will be deleted. And the instrument records will also be deleted. Click “Cancel”, the operation will be canceled.

Figure 3-6

3.3.3 Clear Record

Click “Clear Record” to clear the records in corresponding operating mode.

3.3.4 Export to Excel

Click “Export to Excel” to export all checked records to Excel file.

3.3.5 Print Report

Click “Print Report” to print all checked records.

3.3.6 Import Record

Click “Import Record” will import all checked records to GQC6 working space. It’s only available for basic record.

3.3.7 Display or Hide a Certain Measurement Angle

Check or uncheck “Display 20°”, “Display 60°”, “Display 85°” to display or hide corresponding angle.

4 Operating Mode

When the instrument connected with software, users can conduct measurement through the computer.

There are three operating modes: Basic Mode, Quality Control Mode and Statistical Mode. Users can switch the mode in “Measure” menu (Figure 4-1).

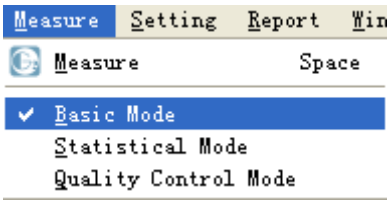


Figure 4-1

4.1 Basic Mode

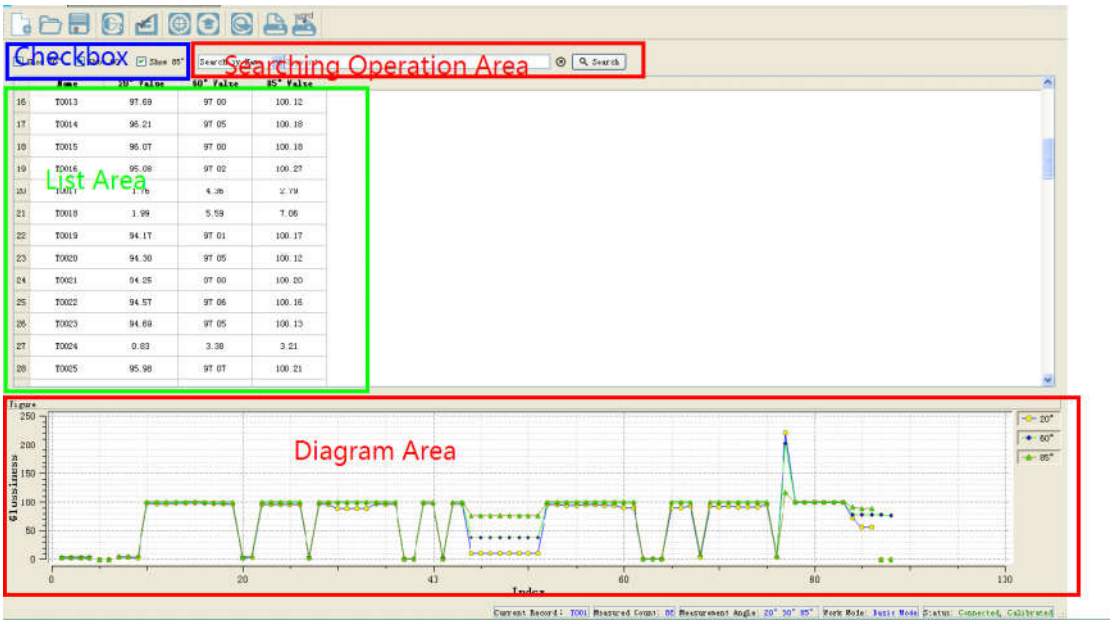


Figure 4-2

Basic mode (Figure 4-2) includes List Area, Check Box, Research Area and Diagram Area. It can do basic measurement, check records, display diagram,

search records based on name or measurement range as well as export or print basic records.

4.1.1 Measurement

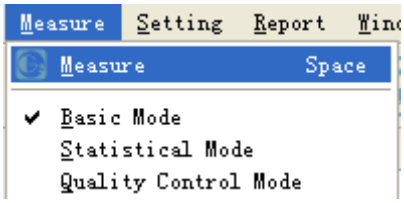


Figure 4-3

Click “Measure→Measure” (Figure 4-3) or the measurement icon to start measurement. The simplest way is pressing the “Space Bar” to measure. When the measurement completed, the measuring results will be auto-named and highlight displayed in the tail of the list.

4.1.2 Rename

Select the records, right-click (Figure 4-4) and rename it. After inputting the new name, press Enter or click somewhere outside the edit box to complete the rename.

Attention: The name cannot be empty. When renaming, you can select only one record each time.

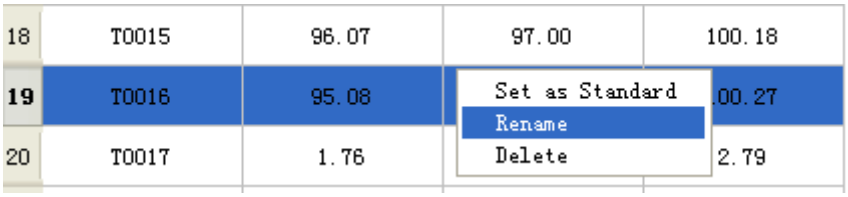


Figure 4-4

17	T0014	96.21	97.05	100.18
18	T0015	96.07	97.00	100.18
19	T0016	95.08	97.02	100.27
20	T0017	1.76	4.36	2.79
21	T0018	1.99	5.59	7.06

Figure 4-5

4.1.3 Delete Record

Select the records in data list (Users can operate it by press “Ctrl” or drag the mouse to select multiple records.), right-click, it will pop up a window (Figure 4-6), then click “Delete”.

1	T001	0.71	4.04	2.09
2	T002	0.74	4.04	2.16
3	T003	0.75	4.02	2.12
4	T004	0.73	4.01	2.13
5	T0002	--	--	--
6	T0003	--	--	--
7	T0004	2.13	4.71	4.89
8	T0005	2.01	4.90	5.09
9	T0006	1.82	4.87	5.11

Set as Standard
Rename
Delete

Figure 4-6

4.1.4 Search Record

Figure 4-7

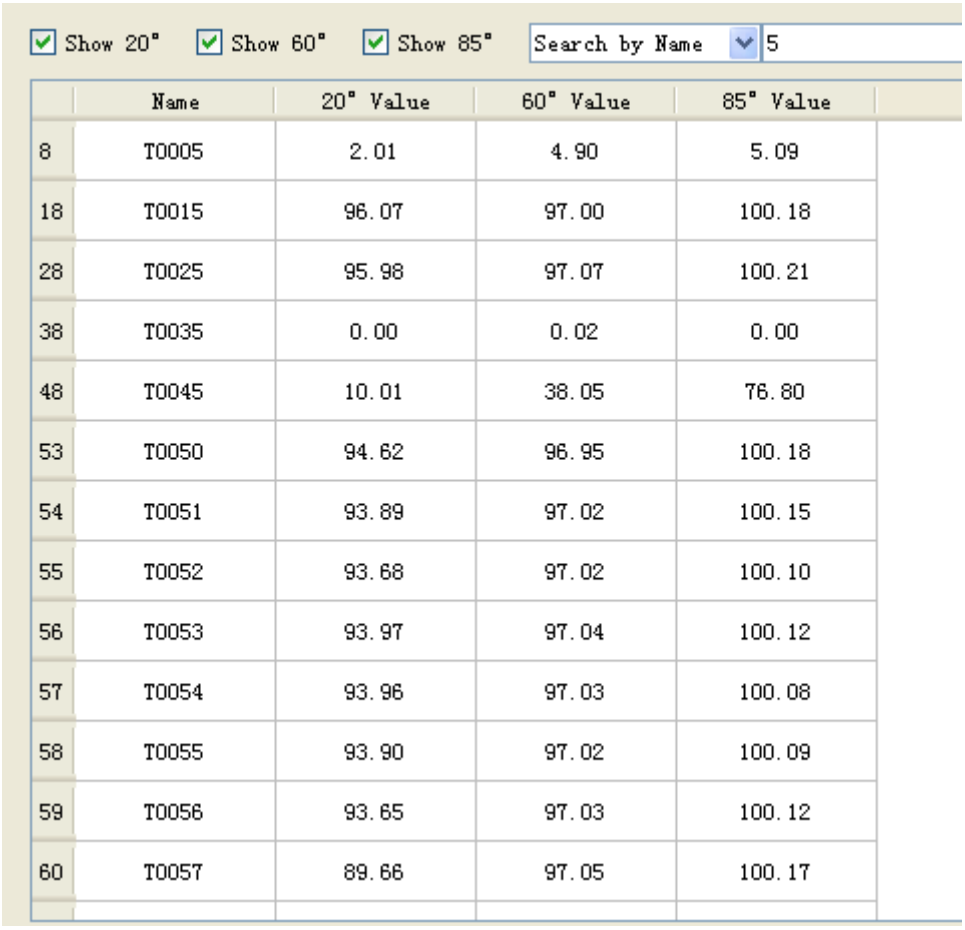
Users can search records through the search operation area (Figure 4-7). Two options: Search by Name and Search by Value.

a) Search by Name

Switch to “Search by Name” as shown in Figure 4-8.

Input keywords to search the records. Click “Search”, the result will be displayed on the record list. If no match is found, the records list will be empty.

Figure 4-8



	Name	20° Value	60° Value	85° Value
8	T0005	2.01	4.90	5.09
18	T0015	96.07	97.00	100.18
28	T0025	95.98	97.07	100.21
38	T0035	0.00	0.02	0.00
48	T0045	10.01	38.05	76.80
53	T0050	94.62	96.95	100.18
54	T0051	93.89	97.02	100.15
55	T0052	93.68	97.02	100.10
56	T0053	93.97	97.04	100.12
57	T0054	93.96	97.03	100.08
58	T0055	93.90	97.02	100.09
59	T0056	93.65	97.03	100.12
60	T0057	89.66	97.05	100.17

Figure 4-9

b) Search by Value

Switch to “Search by Value” as shown in Figure 4-10.

Input “glossiness value” and “Deviation Range” to search the records.

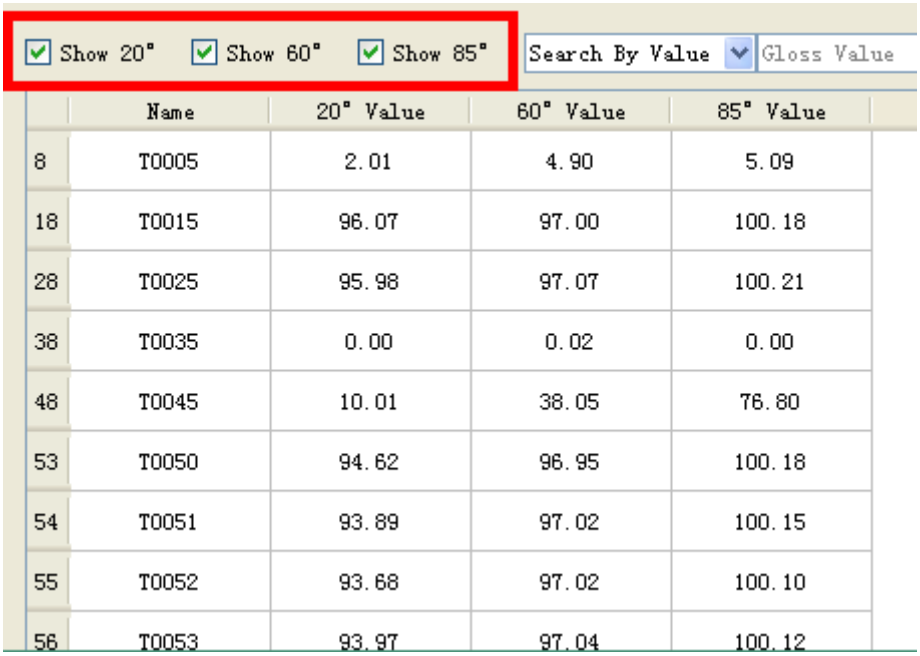
Click “Search”, the related data will be displayed on the list.

Figure 4-10

c) Clear Search Results

Click “⊗” in search operation area or click “Esc” to clear the searched results and display all records.

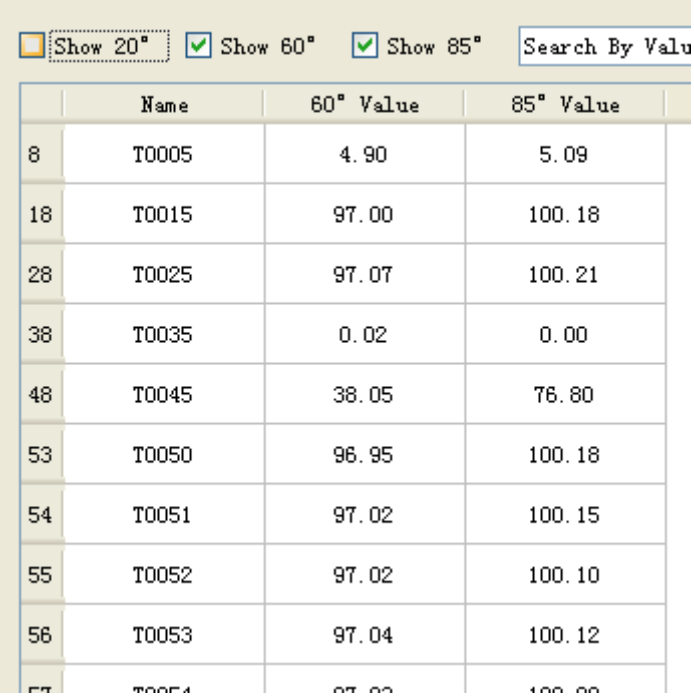
4.1.5 Hide or Display Data in Certain Measurement Angle



	Name	20° Value	60° Value	85° Value
8	T0005	2.01	4.90	5.09
18	T0015	96.07	97.00	100.18
28	T0025	95.98	97.07	100.21
38	T0035	0.00	0.02	0.00
48	T0045	10.01	38.05	76.80
53	T0050	94.62	96.95	100.18
54	T0051	93.89	97.02	100.15
55	T0052	93.68	97.02	100.10
56	T0053	93.97	97.04	100.12

Figure 4-11

As shown in Figure 4-11, there are three check boxes: Display 20°, Display 60°, Display 85°. Users can check or uncheck it.



	Name	60° Value	85° Value
8	T0005	4.90	5.09
18	T0015	97.00	100.18
28	T0025	97.07	100.21
38	T0035	0.02	0.00
48	T0045	38.05	76.80
53	T0050	96.95	100.18
54	T0051	97.02	100.15
55	T0052	97.02	100.10
56	T0053	97.04	100.12

Figure 4-12

4.1.6 Hide or Display Graph in Certain Angle of the Diagram.

As shown in Figure 4-13 and Figure 4-14, click legend button, when the button is sank, it will display the related graphs. Otherwise, the related graphs will be hidden.

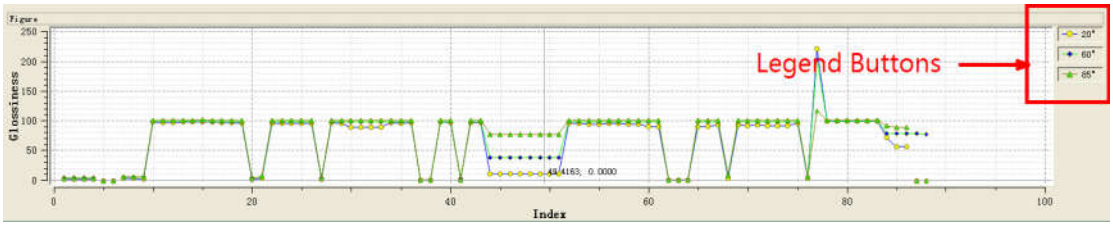


Figure 4-13

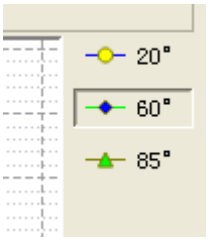


Figure 4-14

4.2 Quality Control Mode

QC mode is similar to basic mode. Under this mode, it will display the deviation between sample and the standard. Also it will judge whether the sample is qualified or not according to the tolerance.

4.2.1 Switch to Quality Control Mode

As shown in Figure 4-15, click “Measure→ Quality Control Mode”.

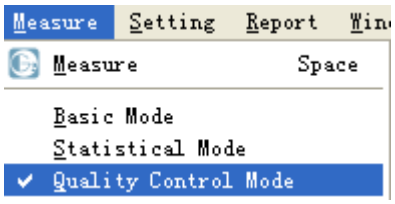


Figure 4-15

This mode share data with basic mode. If you switch basic mode to QC mode, the data are the same. But there are deviation value and conclusion under QC mode (Figure 4-16).

	Name	60° Value	60° Diff	)° Judge Resul	85° Value	85° Diff	5° Judge Resul
7	T0004	4.71	-93.87	Fail	4.89	-94.99	Fail
8	T0005	4.90	-93.67	Fail	5.09	-94.79	Fail
9	T0006	4.87	-93.71	Fail	5.11	-94.77	Fail
10	T0007	98.58	0.00	Pass	99.88	0.00	Pass
11	T0008	98.54	-0.03	Pass	100.14	0.25	Pass
12	T0009	98.55	-0.02	Pass	99.91	0.03	Pass
13	T0010	98.70	0.12	Pass	100.16	0.28	Pass
14	T0011	98.59	0.01	Pass	100.18	0.30	Pass
15	T0012	98.75	0.17	Pass	100.43	0.54	Pass
16	T0013	97.00	-1.58	Pass	100.12	0.24	Pass
17	T0014	97.05	-1.53	Pass	100.18	0.30	Pass

Figure 4-16

4.3 Statistical Mode

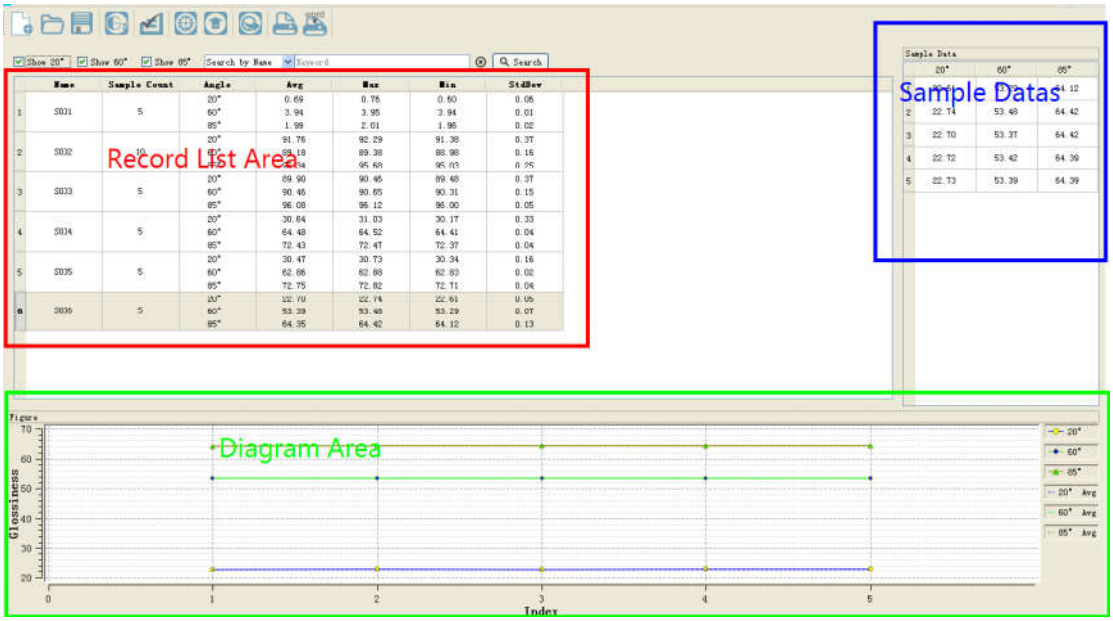


Figure 4-17

Statistical mode (Figure 4-17) is used to count multi-sample measurement results. It can count the average value, max value, min value and standard difference.

4.3.1 Switch it to Statistical Mode

Click “Measure→Statistical Mode”, as shown in Figure 4-18

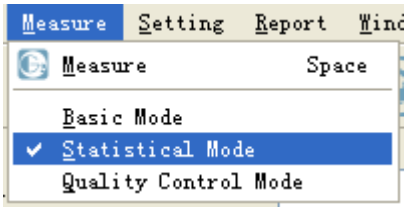


Figure 4-18

4.3.2 Measure

Click “Measure→Measure” or click “Measure” icon in the tool bar, or just press space key to start measurement. When the measurement begins, it will pop a

window as shown in Figure 4-19.

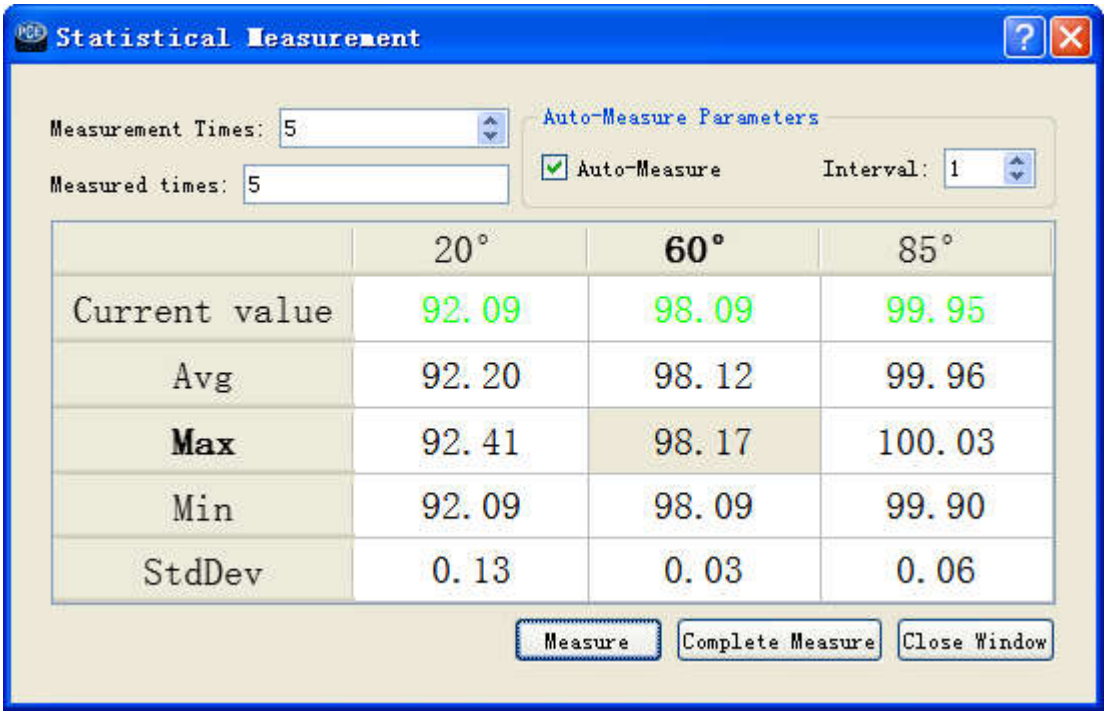


Figure 4-19

First, set measurement times. Click “Measure”, the current value, average value, max value and standard deviation value will change according to the measuring times. When all measurements completed, the statistics results will be added to statistical record list automatically.

If you want to complete the measurements when actual measuring times are less than presupposed times, you can click to finish the measurements. And the statistics results will be added to statistical record list.

If want to end the measurements and discard the results, you just close the measurement window.

If check “Auto Measure”, click “Measure”， it will start to measure automatically (Figure 4-20).

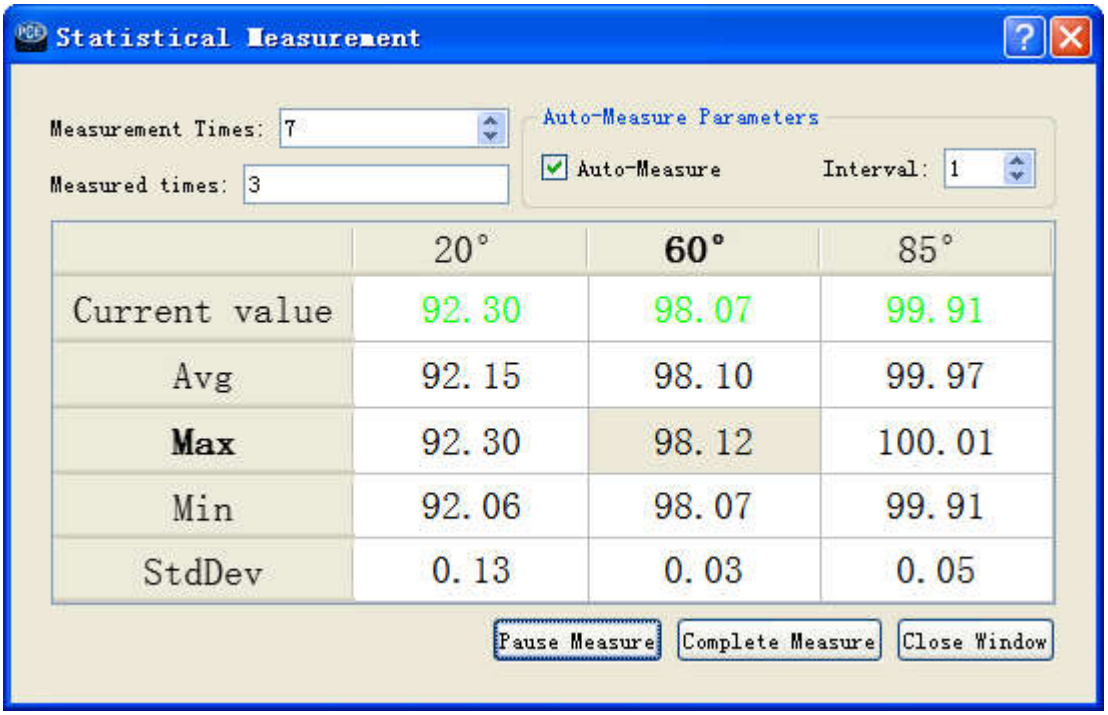


Figure 4-20

4.3.3 Interface Operation

When click statistical records, it will be highlighted. The statistical data will display on the right side of the “sample data” list, and it will display graphs. In the diagram area, except measurement value, it will also display the average value by a dotted line. You can click the icon on the right diagram to display or hide related graphs.

4.3.4 Quality Control in Statistical Mode

In “Display Setting” (Refer to Chapter 7.2), if checked “Deviation” and “Conclusion” in statistical mode fields, it will display “Deviation” and “Conclusion” automatically after setting the current standard (Figure 4-21). It will hide when the standard is emptied.

	Name	Sample Count	Angle	Avg	Max	Min	StdDev	Diff	Judge Result
1	S001	5	60°	3.94	3.95	3.94	0.01	-86.52	Fail
			85°	1.99	2.01	1.96	0.02	-94.09	Fail
2	S002	10	20°	91.76	92.29	91.38	0.37	1.86	Pass
			60°	89.18	89.38	88.98	0.16	-1.28	Pass
			85°	95.34	95.68	95.03	0.25	-0.74	Pass
3	S003	5	20°	89.90	90.46	89.48	0.37	0.00	Pass
			60°	90.46	90.65	90.31	0.15	0.00	Pass
			85°	96.08	96.12	96.00	0.05	0.00	Pass
4	S004	5	20°	30.64	31.03	30.17	0.33	-59.26	Fail
			60°	64.48	64.52	64.41	0.04	-25.97	Fail
			85°	72.43	72.47	72.37	0.04	-23.65	Fail
5	S005	5	20°	30.47	30.73	30.34	0.16	-59.43	Fail
			60°	62.86	62.88	62.83	0.02	-27.59	Fail
			85°	72.75	72.82	72.71	0.04	-23.33	Fail
6	S006	5	20°	22.70	22.74	22.61	0.05	-67.20	Fail
			60°	53.39	53.48	53.29	0.07	-37.07	Fail
			85°	64.35	64.42	64.12	0.13	-31.73	Fail
7	S007	5	20°	0.70	0.77	0.66	0.04	-89.20	Fail
			60°	3.89	3.92	3.88	0.02	-86.57	Fail
			85°	1.99	2.03	1.94	0.03	-94.09	Fail
8	S008	7	20°	0.70	0.75	0.67	0.03	-89.20	Fail
			60°	3.87	3.89	3.86	0.01	-86.58	Fail
			85°	1.98	2.02	1.95	0.02	-94.09	Fail

Figure 4-21

5 Tolerance and Standard Setting

Tolerance and standard are global. In quality control mode and statistical mode, the tolerance and standard are the same. If modify it in any mode, the tolerance and standard of other modes will also be changed.

5.1 Tolerance Setting

Click “Setting→ Tolerance Setting” (Figure 5-1) to open tolerance setting window (Figure 5-2).

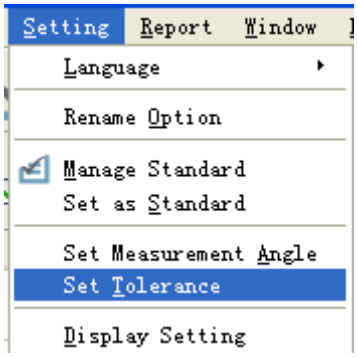


Figure 5-1

If the gloss meter is connected, click “Read from Instrument” or “Write into Instrument” to read/input the current tolerance value into the instrument. After completing, click “OK”, the tolerance setting window will be closed and the

setting will be applied.

Attention: When read the tolerance from instrument, you must click “OK” to take effect.

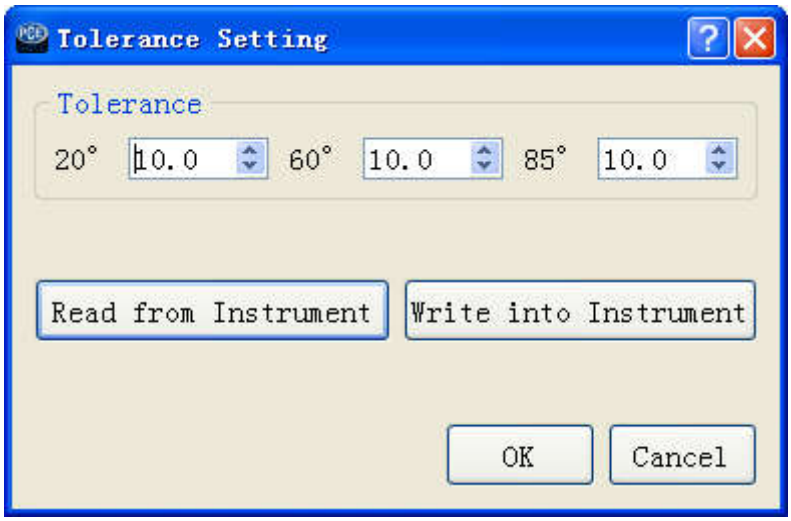


Figure 5-2

5.2 Standard Setting

5.2.1 Set Current Standard

There are two methods to set current standard.

First, select one record on the list and right-click to “Set as Standard” (Figure 5-3), the selected one will be set as current standard. In basic mode and quality control mode, “Set as Standard” is the measurement value, but in statistical mode, “Set as Standard” is the average value.

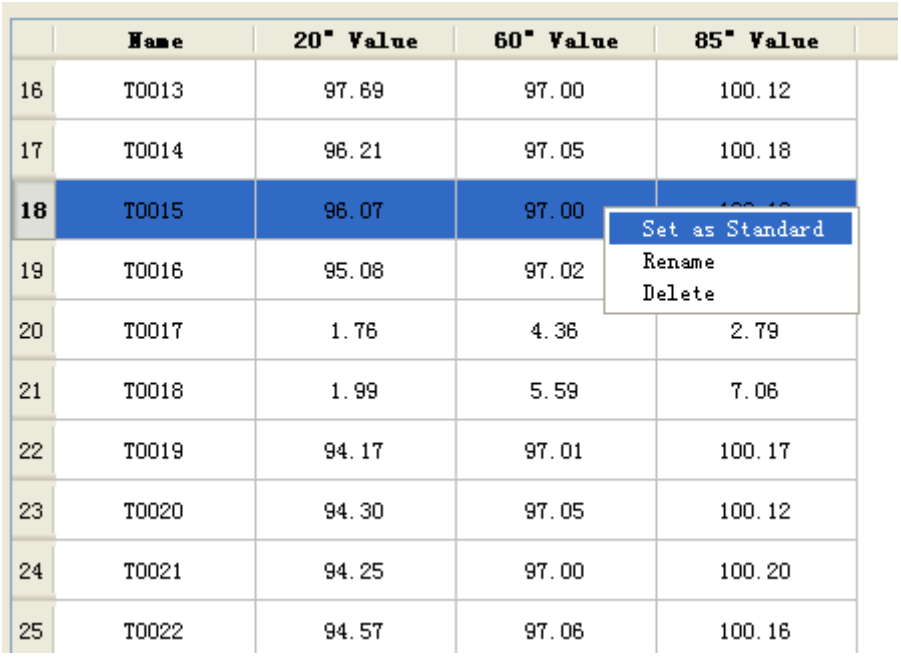


Figure 5-3

Another method is set current standard by managing standard window. Please refer to “Manage Standard”’→“Manage Current Standard”.

5.2.2 Management Standard

Click “Setting →Manage Standard” or click “Manage Standard” icon on the tool bar to open “Manage Standard” window as shown in Figure 5-4. It will display current standard value and standard list.

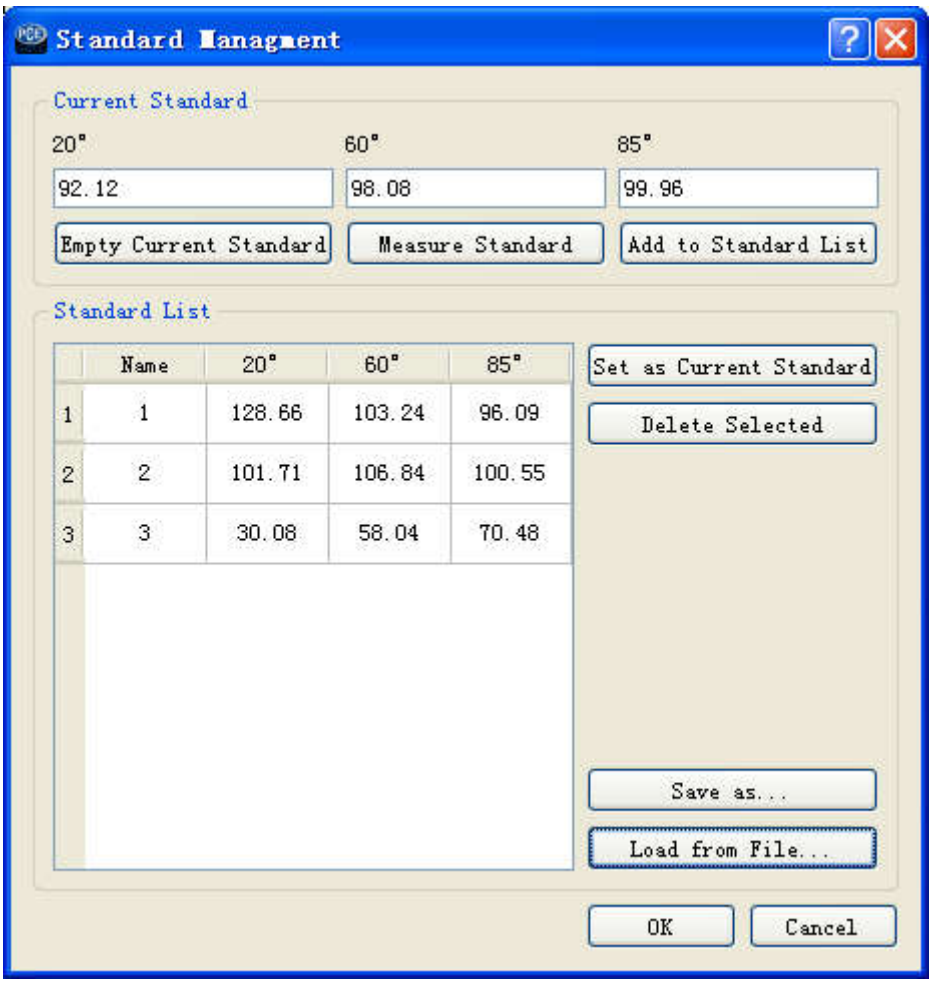


Figure 5-4

a) Manage Current Standard

Current standard will display current standard value. If an angle doesn't set standard, the related value will be empty. Users can modify edit box's value directly to set current standard.

Click "Empty Current Standard", the current standard will be emptied.

"Measure Standard", users can measure the gloss value and set it as the current standard.

"Add to Standard List", users can add the current standard into the standard list.

Select a standard in standard list, click "Set as Current Standard" to set the standard as current standard.

Attention: After completing the modification, you must click “OK” to take effect. Otherwise, the current standard will not change. In addition, the current standard will not add to the list automatically. New standard will cover the original one.

b) Standard List Operation

“Set as Current Standard” is to set the selected standard as the current standard (Attention: only can select one standard).

“Delete Selected Standard” is to delete selected standard from standard list.

“Save as...” is to save the standard list into specified file.

“Load from file...” is to load standard list from a saved standard file. The original standard list will be covered.

Attention: All the operations to standard list will take effect immediately.

6 Data Export and Report Printing

6.1 Export Data

Click “File→Export Data” (Figure 6-1) or click “Export Data” icon on the tool bar, it will export records into Excel file.

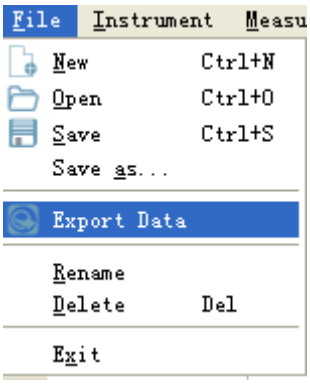


Figure 6-1

6.2 Print Report

Click “Report→Print” or click “Print” icon on the tool bar, it will pop up print preview window (Figure 6-2), click printer icon on the top right to select relevant printer.

If just want to print the selected records, click “Report→Print Selected Record”. For statistical records, if only selected one record, the diagram and statistics sample will be printed also.

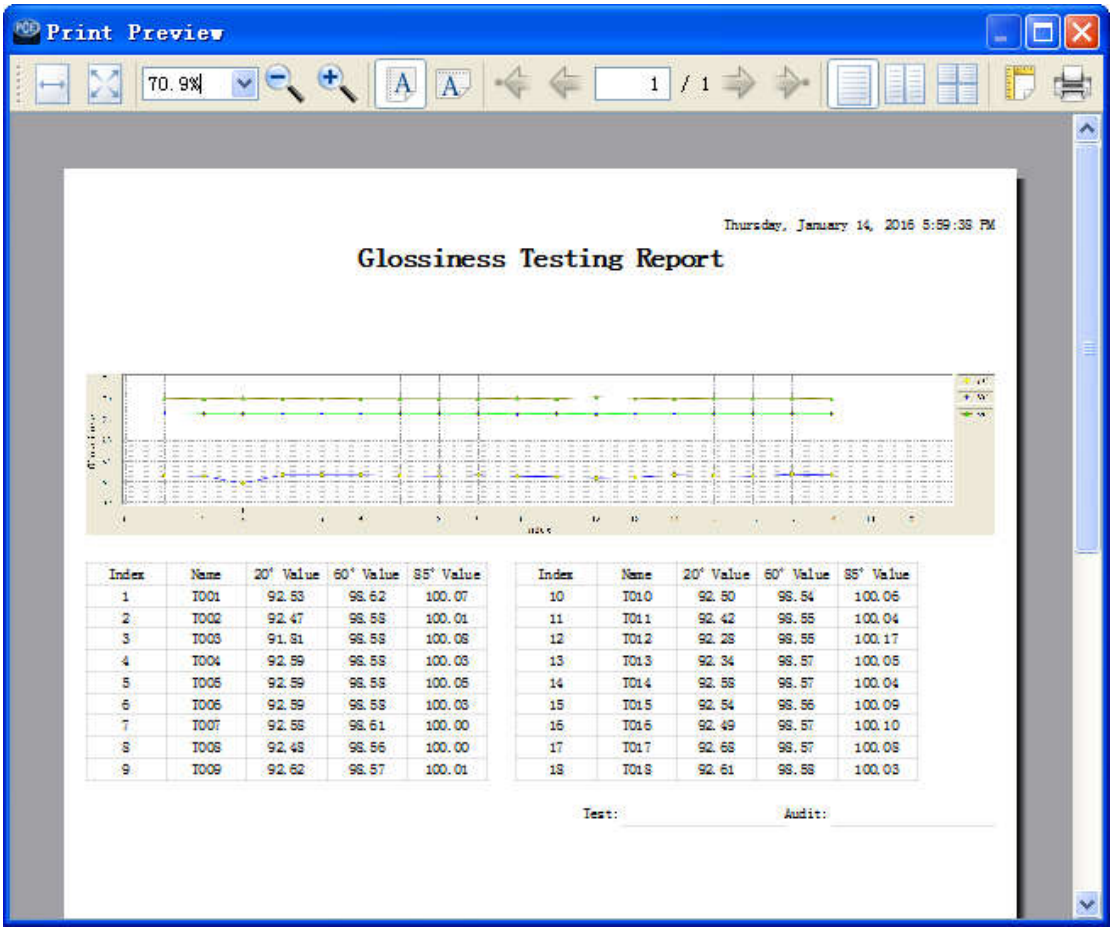


Figure 6-2

6.3 Print to Word Format

Click “Report→Print to Word” or by clicking the corresponding icon on the tool

bar to export the report to Word file and open it (Figure 6-3).

Through “Report→Print to Word”, you can only print the selected records.

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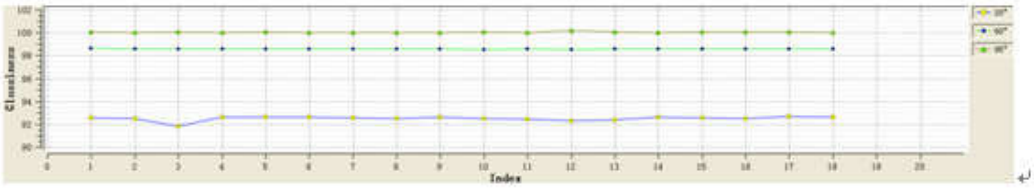
Glossiness Testing Report



Index	Name	20°Value	60°Value	85°Value
1	T001	92.53	98.62	100.07
2	T002	92.47	98.58	100.01
3	T003	91.81	98.58	100.08
4	T004	92.59	98.58	100.03
5	T005	92.59	98.58	100.05
6	T006	92.59	98.58	100.03
7	T007	92.58	98.61	100.00
8	T008	92.48	98.56	100.00
9	T009	92.62	98.57	100.01
10	T010	92.50	98.54	100.06
11	T011	92.42	98.55	100.04

Figure 6-3

6.4 Set Report Information

Click “Report—>Report Info.” to open Set Report Information window (Figure 6-4).

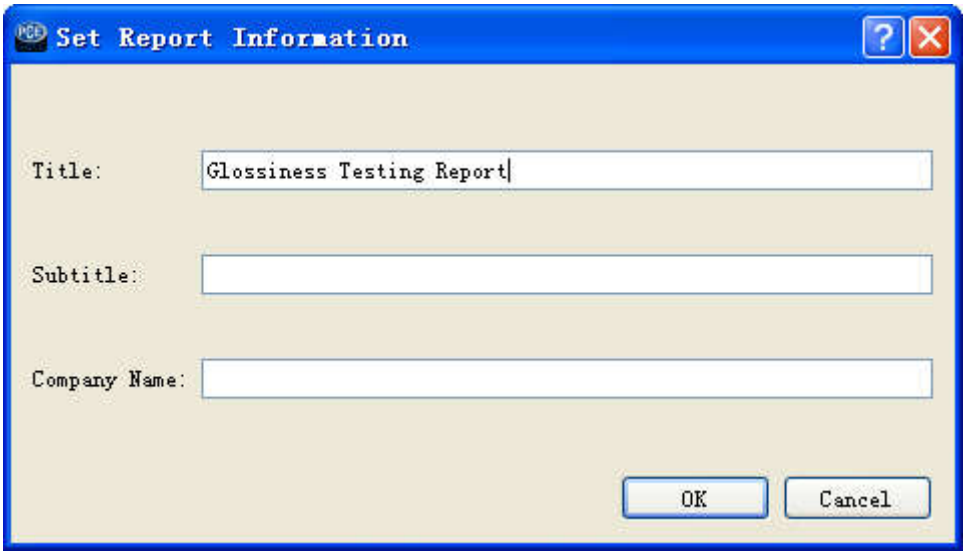


Figure 6-4

7 Setting

7.1 Measurement Angle Setting

Measurement angle setting is used to set measuring angle.

Attention: This operation will not affect the angle displayed in data list.

Measurement angle mainly depends on instrument mode. For tri-angle gloss meter, all the angles are available. For single angle gloss meter, it doesn't have this function.

Click "Settings→Set Measurement Angle" to select corresponding angle, and click "OK" to take effect.

7.2 Display Setting

Display Setting is used to set display fields in data list. Difference modes support different fields display.

Click "Setting→Display Settings" to open the window as shown in Figure 7-1.

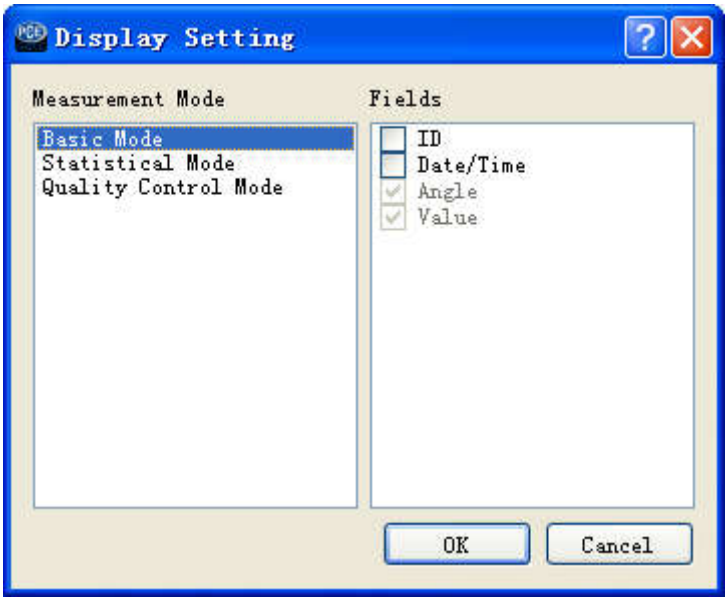


Figure 7-1

By default, “Measurement Mode” list will select the current measuring mode. “Display Fields” will display all fields supported by corresponding mode. Those fields change with different measurement modes. The gray item cannot modify. In other fields, if checked, the field will display. Otherwise, it will hide.

After modifying, click “OK” to take effect.

7.3 Naming Option

Naming option is used to set auto-naming rules. Click “Setting→Naming Option” to open naming option window (Figure 7-2). Set naming rules according to the descriptions and Click “OK” to finish this operation.

“Set as Default” will set the name rules as default.

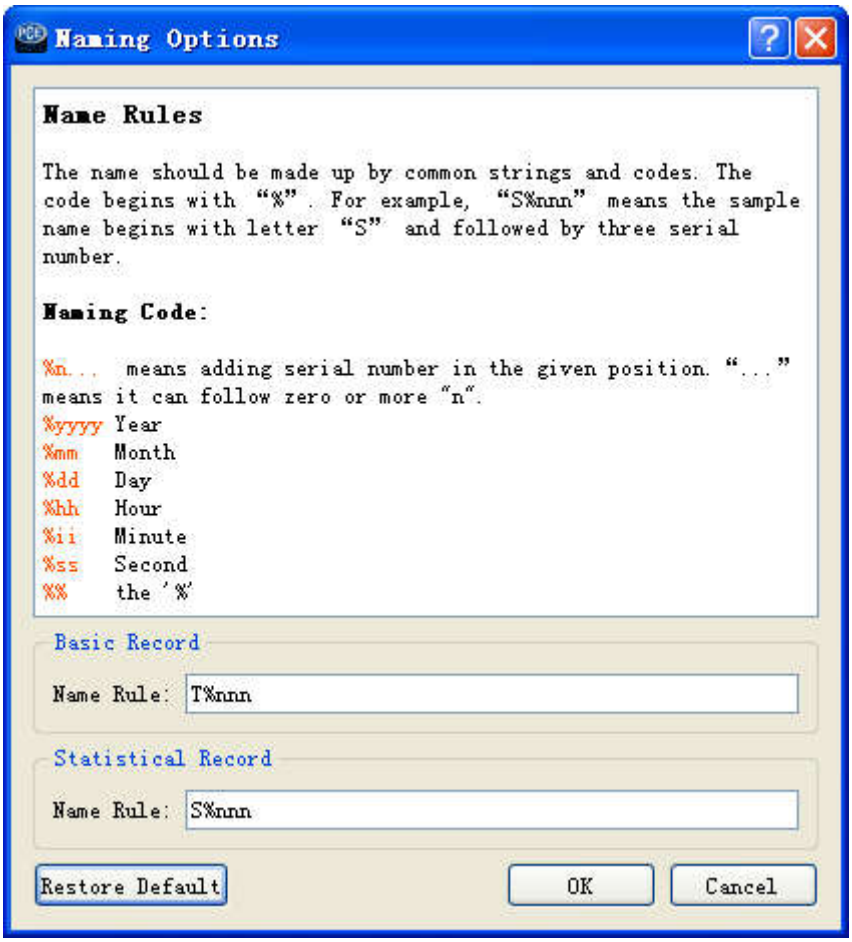


Figure 7-2

8 Help

Click "Help → User Manual" to open software instruction.