

Digital Curvimeter (USB Output Type)

CV-98USB Operation Manual

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INDEX

CV-98USB Installation Guide

1. Product Specification	3
2. Explanation of Parts	3
3. Driver Installation	4
3.1 For Windows98	
3.2 For Windows XP	
4. How to USE	8
5. Precautions for Usage	9

CV-98USB Receiver Software

1. How to Install	11
2. How to USE CV-98USB	11
3. How to Setup the Software	12
3.1 Startup	
3.2 Scale Size Setting	
3.3 Unit Setting	
3.4 Keyboard	
4. How to USE the Software	14

BEFORE YOU START

Thank you for purchasing our CV-98USB.

CV-98USB is a Digital Curvimeter which easily measures straight lines as well as curved lines that are otherwise difficult to measure, by simply connecting it to a PC USB port. Measurement results are easily digitalized.

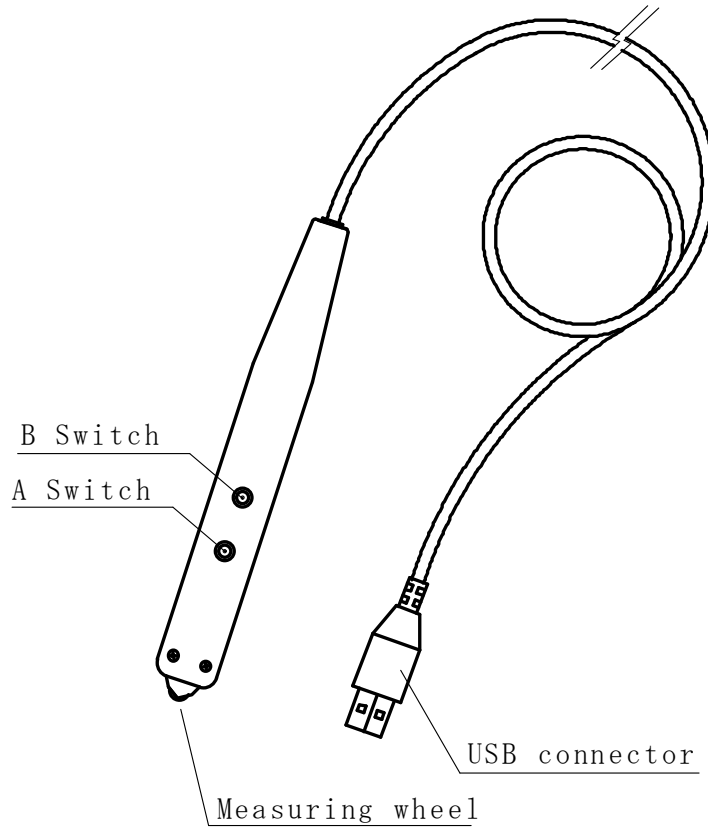
WARNING

Before using the instrument, you must first install the software driver. (Page 4) If used without the driver installed, the receiver software will not function.

1. Product Specification

Resolution	1 mm
Accuracy	0.3% (1 m during measurement Tolerance $\pm 3\text{mm}$)
Tracking Speed	Within 2m/sec
Interface	USB Spec. Version 2.0 Compliant

2. Explanation of Parts



- Measuring Caster
- A Switch
- B Switch
- Connector Connect to PC USB port

3. Driver Installation

3.1 For Windows98

Connect CV-98USB to the PC. Windows will detect a new hardware and a setup wizard as shown below will be started. Select “Automatic search for a better driver (Recommended)” and click “Next” button.



Specify the driver location. If you obtained the driver on a floppy disk, check [Floppy Disk Drive]. If you downloaded the driver from our website, check “Specify a location” and specify the downloaded file folder path.



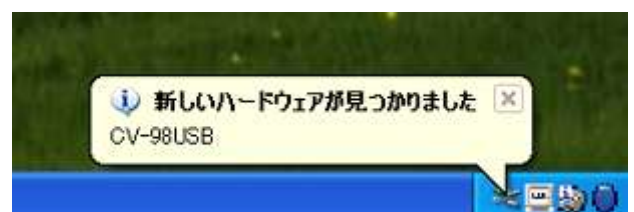
After confirming the file name is 「Fymetrix CV-98USB」, click [NEXT] button.



If you click the [FINISH] button, driver installation is complete.



3.2 For Windows XP

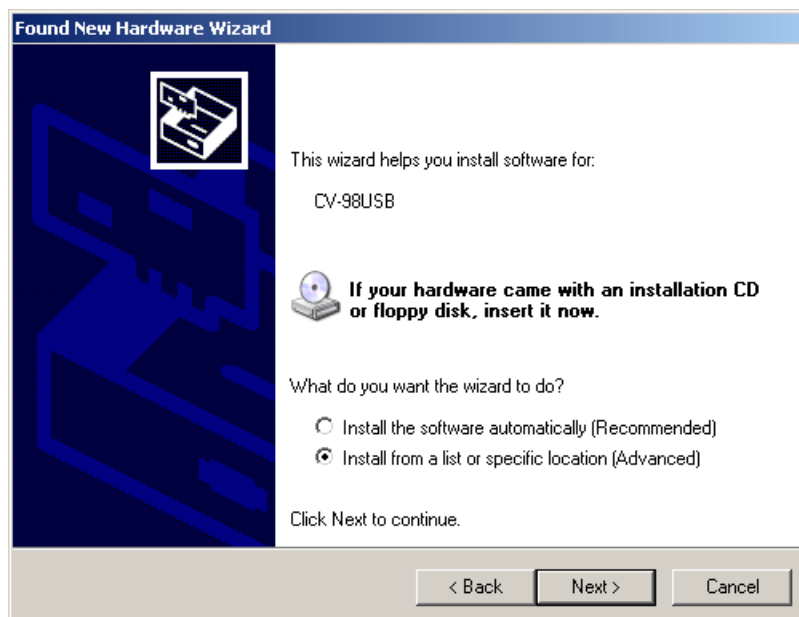


Connect CV-98USB to the PC. Windows will detect a new hardware.

The newfound hardware wizard screen will appear asking if you wish to connect to windows update to search for software. Select “No, not at this time”. Click next to proceed.

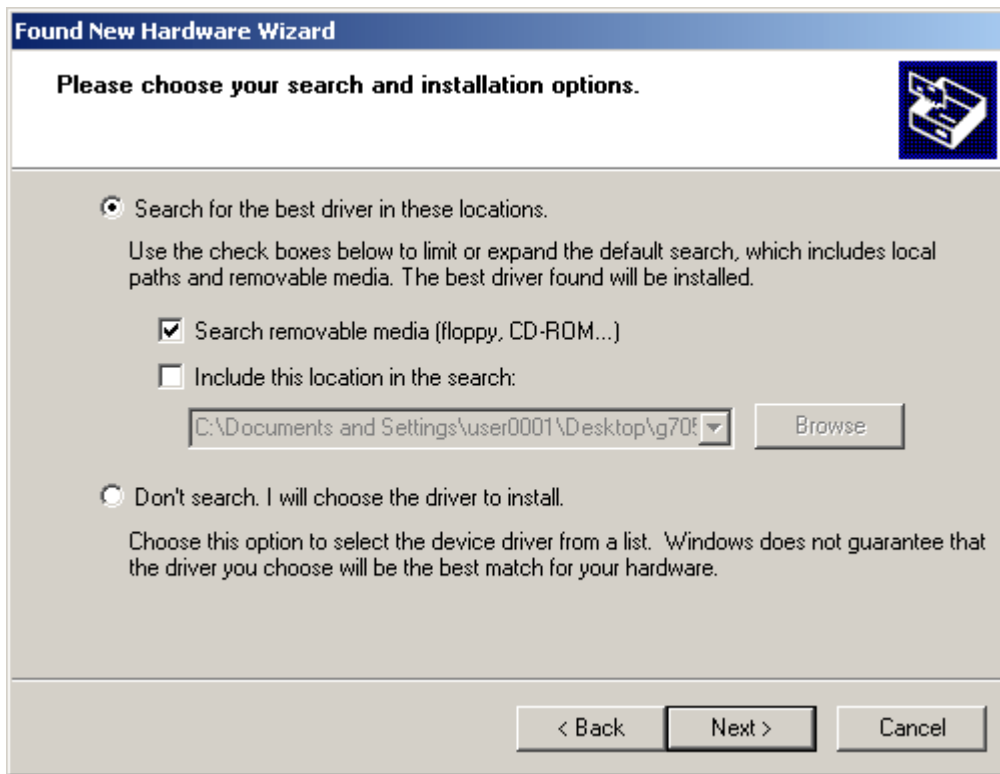


On the next screen as shown below, select 「Install from a list or specific location (Advanced)」 and click [NEXT] .

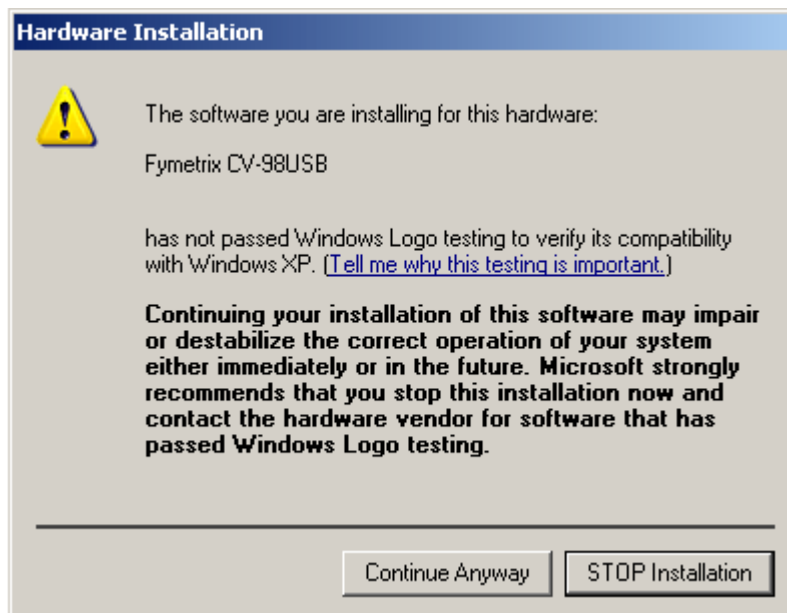


Specify the driver location. If you obtained the driver on a floppy disk, check [Search Removable Media (Floppy, CD-ROM...)]. If you downloaded the driver from our

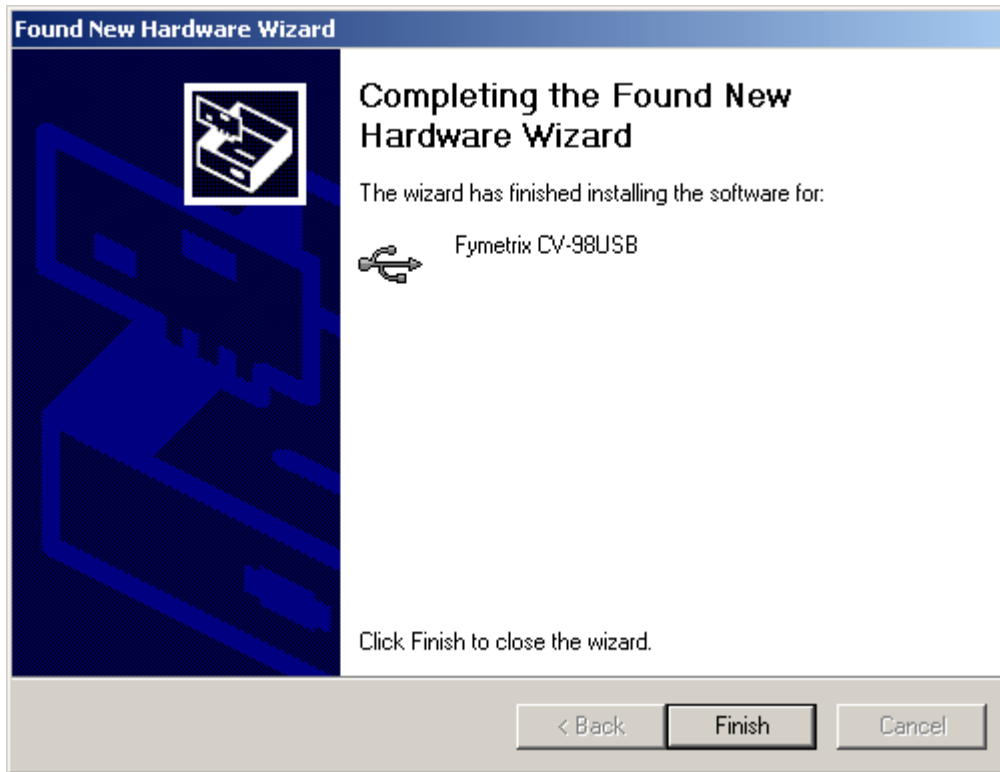
website, check 「Include this location in the search」 and browse to the folder where you saved the downloaded file.



Driver installation begins. In the case of XP, the following message may be displayed.



Although we have not obtained a logo test from Microsoft for this driver, it has been tested for operating compatibility. Click [Continue Anyway] to continue with driver installation.



Click [Finish] to complete driver installation.

4. How to USE CV-98USB

After installing the driver, it becomes possible to use the CV-98USB. If the measuring caster is moved, data is dispatched. Data is acquired through the API supplied by the driver.

Information required for programming is provided in the sample program. Please download it from our web site.

If you use the receiver program supplied by us, you have no need for programming. The receiver program is available for download from our website.

Details of the output data are as follows

[X1][X2][,][F1][C/R] Hexadecimal Form : 3? 3? C2 3? D0

[X1][X2] Moved length since the last output

Number of pulse counts is transmitted in ASCII code.

Example, In the case of (30H 33H), movement quantity is 03 pulse meaning;

$$3 \times 1 \text{ mm} = 3 \text{ mm}$$

[F1] With the button Pressed

30H No button is pressed

32H B button is pressed

31H A button is pressed

33H AB buttons are pressed(Count Value is 0)

5. Precautions for Usage

Do not apply excessive impact on the measuring caster. It is recommended to always put the protective cover when not in use.

Digital Curvimeter (USB Output Type)

Receiver Software

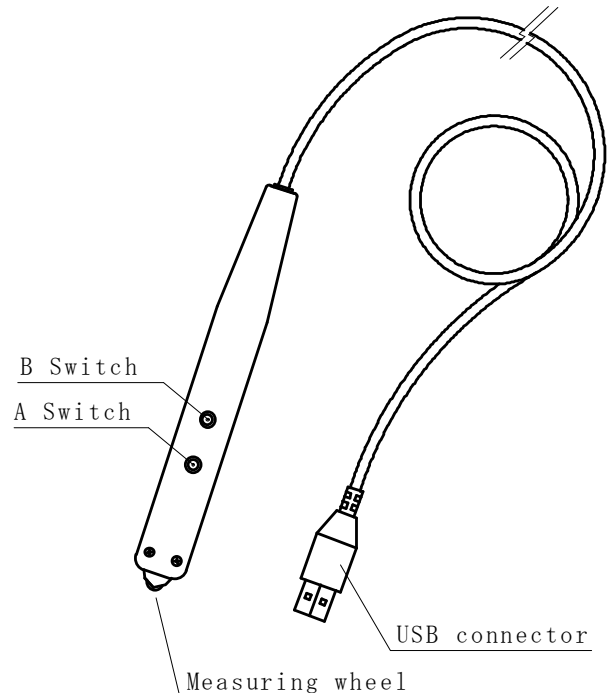
This software is specifically for receiving data from the CV-98USB. This software has a Keyboard output function therefore while using spreadsheet software and others like software for quantity surveying quotation, when inputting lengths, rather than typing on the keyboard, by using the CV-98USB for measurement, it is possible to easily import data.

1. How to Install

Before installing this software, please install the driver software for CV-98USB. Regarding how to install the driver, please refer to the CV-98USB operation manual. After installing the driver, execute Setup.exe to commence the installation. Follow the instructions on the screen for the rest of the process.

2. HOW TO USE CV-98USB

Connect CV-98USB to the PC USB port.



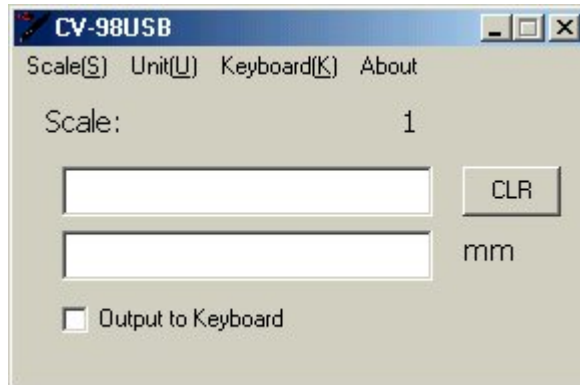
HOW TO MEASURE

- If the measuring caster is moved, the movement distance increases. Use this method for normal measurement.
- If you move the measuring caster excessively and want to reverse it, Moving the Measuring Caster while pressing Switch B will cause the movement distance to decrease.
- To confirm and finish measurement, Press A button.

3. How to Setup the Software

3-1 Startup

On Startup the main window appears.



If CV-98USB did not start up normally, error message as the one on the right is displayed. First detach CV-98USB from the computer and connect attach it once more.



3-2 Scale Size Setting

For scaling, Select [SCALE (S)] from the menu. The scales available in this software are as follows.

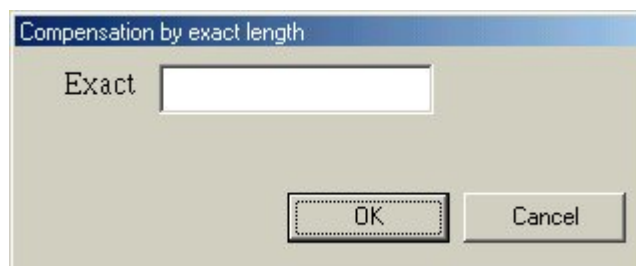
- User Scale

Used to input a known scale, the following window appears, use it to input a scale value.

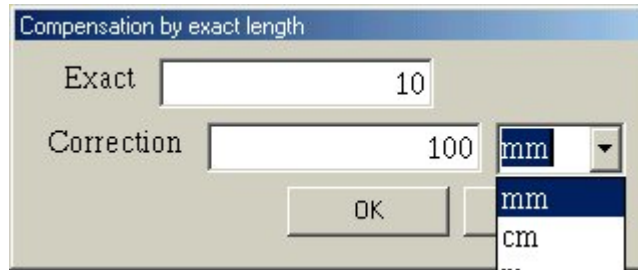


- Original Dimension Correction

Measure the line for which the length is known on the drawing with CV-98USB. By inputting that length from the keyboard, the scale is calculated. If you select [Scale(S) → Compensation(O)], the following window is displayed.



Measure the line for which the length is known on the drawing with CV-98USB. If A button is pressed and the measurement completes the windows changes to the one below.



Enter the correction value for the measured line length here, select unit and click OK. The scale is calculated.

In the above example, an original 10mm line on the drawing is corrected to 100mm, therefore the scale will be 1/10.

3-3 Unit Setting

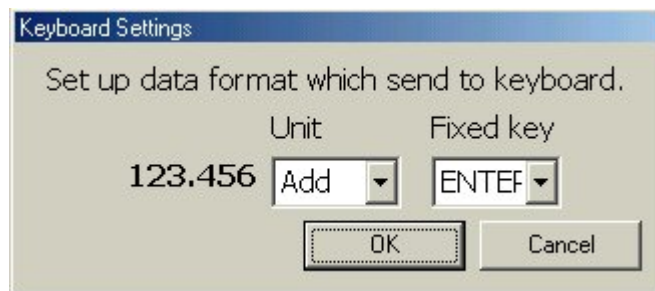
For Units, select [Unit (U)] from the menu. The units available in this software are as follows.

- mm cm m km

3-4 Keyboards

If keyboard output is checked on the main window, received data is transmitted to the Keyboard.

It is possible to set the format of the transmitted data on the menu item [Keyboard (K)].



In the above drawing example, if measurement result is 100.123cm, To the Keyboard, data, unit and ENTER keys are passed. In other words, it will be the same as if [1][0][0][.][1][2][3][c][m][Enter] keys are typed on the keyboard. To stop the passing of units, select NONE in the unit box. It is possible to select from 7 types of confirmation keys as follows:

- No Confirmation Key • Enter • Tab
- Up(↑) • Down(↓) • Left(←)Right(→)

3. How to USE the Software

As a real example on how to use the software, we will explain here how to load the data into EXCEL.

①Start Excel and the CV-98USB receiver software.

②Set Scale and Keyboard. For this example we have set as follows:

```
Scale : 1
Keyboard Output : Checked
Keyboard Setting : Unit      YES
                  Fixed Key  Down
```

③Select to activate the cell in Excel where to input data.

④When measurement takes place, the figure in the text box on the upper part of the main window changes. When measurement is complete and confirmed, the data is copied to the text box on the lower part and transmitted to the Keyboard. (Refer to 2. HOW TO USE CV-98USB)

⑤ Because the Excel cell specified in ③ is active, data is input there.

For example a length of 10mm is measured, it will be the same as if [1][0][m][m][↓] was entered on the keyboard. Data for 10mm will be input into the cell and the cursor moves downwards.

⑥If measurement is further repeated, the cell moves down and data is input.

- * Because input into Excel passed through the Keyboard, if the Japanese (Chinese, Korean etc.) input System is ON, it will not function properly.
- * In this example, even if the confirmation key is set to [Enter], the result will be same. Also if it is set to [Right], the cell will move towards the right direction.

The image shows two overlapping windows. On the left is the CV-98USB utility window, and on the right is the Microsoft Excel - Book1 window.

CV-98USB Window:

- Scale(S): 1
- Unit(U): [Empty text box]
- Keyboard(K): [Empty text box]
- About: [Empty text box]
- CLR: [Button]
- 50 mm
- Output to Keyboard

Microsoft Excel - Book1 Window:

- File menu: ファイル(F) 編集(E) 表示(V) 挿入(I) 書式(O)
- Formula bar: B12 =
- Grid columns: A, B, C
- Grid rows: 1 to 22
- Cell B8: 10mm
- Cell B9: 20mm
- Cell B10: 40mm
- Cell B11: 50mm
- Cell B12: [Empty text box]