



Concrete Tester and Surveyor

CTS-02V4



Quick Start Guide

This Guide gives a simple explanation how to use CTS-02V4 in the most basic setup. Please see User Manual for details.

Confirmation of Contents in This Set

Please get an instrument body and accessories out of the case and confirm entire contents shown below.



CTS-02V4 and Strap



Hammer Unit



USB cable



Driver CD



Quick Start Guide



Certificate

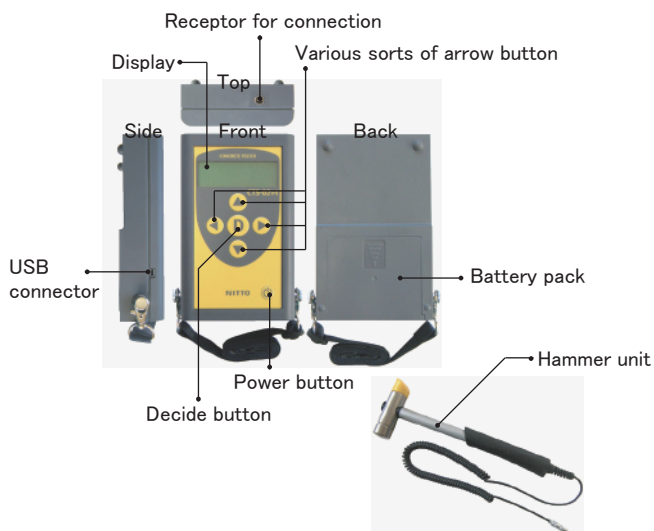


User Manual



4 Size AA batteries

Name of Parts



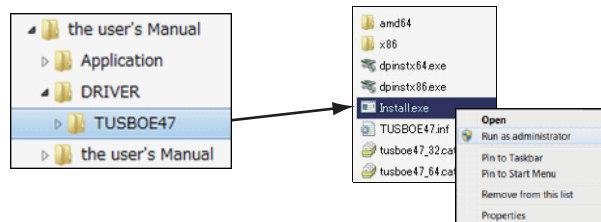
Preparation before Measurement

I. Installing of Driver and Registration of Device

Please refer to Chapter 4 (Installing of Driver) of User Manual for details.

※The device driver is compatible with Windows Vista, Windows 7, Windows 8 and Windows 10.

- 1 Start up PC and insert the driver CD into CD-ROM drive.
- 2 Run the [Install.exe] as administrator in [DRIVER] folder with right click. [DRIVER] folder is in [TUSBOE47].



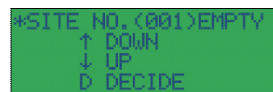
- 3 Although several dialog boxes will be displayed during the installation, please chose accept to continue installation.

- 4 Connect CTS-02V4 body to the PC using an attached USB cable.



- 5 After connected, press button for three seconds to power on.

※Although it may be possible to connect CTS-02V4 to the PC before power-on of CTS-02V4, please confirm that CTS-02V4 is in the initial screen. The initial screen of CTS-02V4 is displayed as shown below.

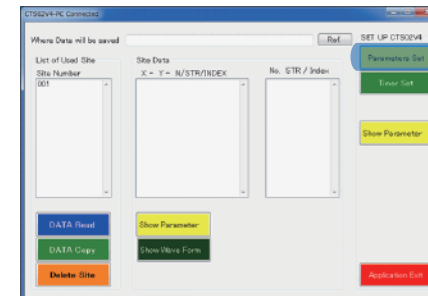


- 6 After connecting CTS-02V4 to the PC, device driver will be installed automatically.

II. Set-up of Parameters

Please refer to Chapters 5.1 (Start-up of CTS-02V4-PC Program), 5.2 (Set-up and Writing-in of Measurement Parameters) and 5.4 (Set-up for Timer) of User Manual for details.

- 1 Program, CTS-02V4-PC.exe, in the driver CD is copied and pasted to the PC and then started up. Click [Parameters Set] button.

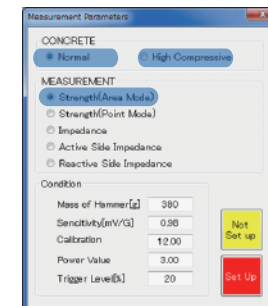


- 2 Select a type of the concrete that you want to measure.

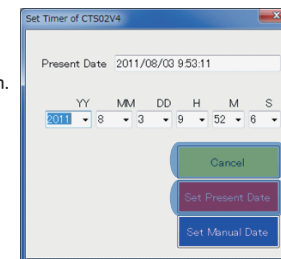
In case that putative value is less than 30 N/mm² → 「Normal」

In case that putative value is 30 N/mm² or more → 「High Compressive」

Select the type of measurement. [Strength (Area Mode)] is selected here. When completed the set-up of parameters, click [Set Up] button.



- 3 To set up the internal timer of CTS-02V4, click [Timer Set] button at the initial screen of the PC program. When dialog window is displayed as shown in the right, click [Set Present Date] button. When renewed the timer, click [Cancel] button.



- 4 Click [Application Exit] button to exit the application.










- 5 Press [Power] button in CTS-02V4 body for 3 seconds to power off.

- 6 Pull off USB cable from PC and CTS-02V4 body.

Measurement

III. Preparation of CTS-02V4 and Method of Measurement

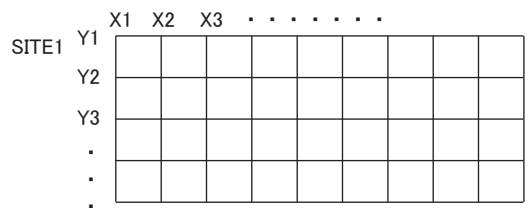
Please refer to Chapters 6 (Operating Instruction for CTS-02V4) and 7 (Method of Measurement) of User Manual for details.

- 1 Insert four (4) size AA batteries into the battery pack of CTS-02V4.
- 2 When connected with hammer, press  button for 3 seconds to power on.
- 3 Select the SITE number that you want to store the measured data using  or  button and then press  button. CTS-02V4 becomes in the stand-by screen (LOOKUP mode).
- 4 Specify the point to measure by the coordinate number (X, Y). Press  or  button for increase or decrease of the X axis, or  or  button for increase or decrease of the Y axis. When the coordinate number is determined, press  button.

※Example of measuring mesh and set-up of SITE number and coordinate number

In CTS-02V4, the point to measure is managed by the coordinate number (X, Y). When drawing the grid, the coordinate number is allocated as shown in the diagram below.

Measurement is based on the premise that hammering is done several times at each coordinate number.





The SITE number and the coordinate number described above are one of examples. It does not mean to force to set up them as described above.

- 5 In the waiting screen for measurement in CTS-02V4 (to be displayed "MEAS" as shown below), please hit the concrete with a hammer unit.



- The data will not be taken if impact is too strong or too light in CTS-02V4. Please check the impact strength by trying to hammer a few times prior to measurement.
- After hammering, electronic sound indicates if it is a proper hammering or not.
Bleep once: Normal, Bleep three times: Too strong, No bleep: Too light

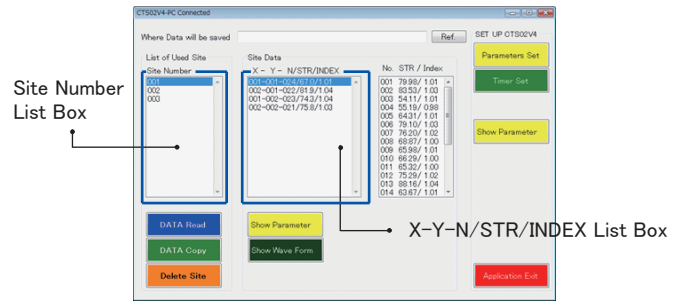
- 6 When finishing the measurement, press  button. It changes from the waiting screen for measurement to the stand-by screen (LOOKUP mode) in CTS-02V4.
- 7 Measurement can be run over by repeating the same procedure as III-4 to III-6.
- 8 When completed all measurements, press  button for 3 seconds to power off.

Data Arrangement

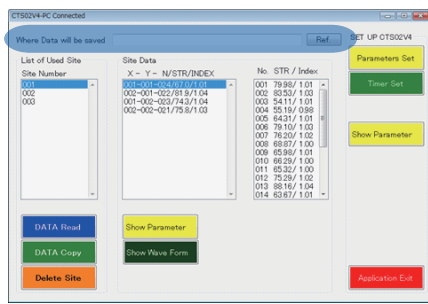
IV. Read-in and Edit of Data

Please refer to Chapter 5.5 (Processing of Measurement Data) of User Manual for details.

- 1 Connect CTS-02V4 to PC and start up the program, CTS-02V4-PC.exe.
 - ※The method for connection of CTS-02V4 to the PC is the same procedure as I-4 to I-5
- 2 Read the data stored in CTS-02V4.
 - ① When CTS-02V4 is connected to PC correctly, the SITE number used for the measurement is displayed in [Site Number] list box of PC application.
 - ② Select the SITE number that you want to read the data and then click [DATA Read] button. The measured result in each coordinate number is read into [X-Y-N/STR/INDEX] list box.



- 3 Transfer the data to PC.



- ① Enter the folder name in [Where Data will be saved] shown on top of the screen. Otherwise, select the folder from the browser available by clicking [Ref.] button or create a new folder.
- ② Select the SITE number what you want to transfer the data to the PC and then click [Data Copy] button. All data in the specified SITE number is transferred into the folder specified according to Procedure ① described above.

- 4 Edit the data.

As the measured result can be output in CSV, it is editable using Microsoft Excel. The data to be output is following:

[Area-*.csv]**

→ The mean score of the data measured in each coordinate number can be output in the form of table in accordance with the coordinate number. It is possible to draw a map of strength distribution using Microsoft Excel.

[Measure-*.csv]**

→ The mean scores of STR value, Index value and Status value can be output in order of measurement.

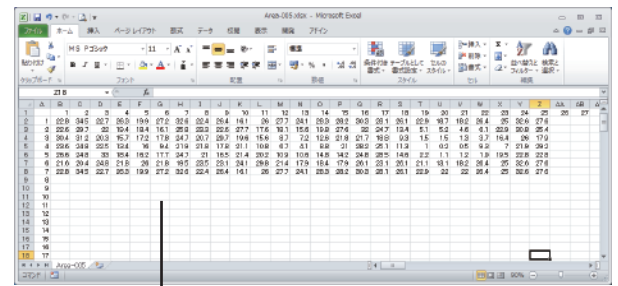
[Over-All-*.csv]**

→ All data about the measurement time, measuring point and the number of times of measurements can be output.

[WaveForm-aaa-bbb-ccc.csv]

→ The data of waveform can be output as a numerical data in times-series manner.

Example of output of [Area-***.csv] file



Drawing Contour Map (Map of Strength Distribution) using Graph Wizard of Microsoft Excel

