CONTENT Page

I. SAFETY INFORMATION ---------- 2

II. FEATURE ---------- 2

III. GENERAL SPECIFICATION ---------- 3

IV. NAME AND FUNCTION ---------- 4

V. OPERATION INSTRUCTIONS:

5.1 Setup Menu ---------- 6

5.2 Measurement ----------10

5.3 Print ----------12

5.4 Load Thermal Paper ----------14

5.5 Replace Battery ----------15

VI. ATTENTION

6.1 Cancel Timed Printing ----------16

6.2 Cancel Timed Recording ----------16

6.3 Master Reset ----------17

VII. Software

7.1 Installation ---------- 18

7.2 Introduction ----------19

⚠ SAFETY INFORMATION

1. Read the following safety information carefully before attempting to operate or service the meter.

2. Only qualified personnel should perform repairs or servicing not covered in this manual.

3. Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on these instruments.

4. Safety symbols:  ngerous , refer to this manual before using the meter.

Apply CE uropean CE.

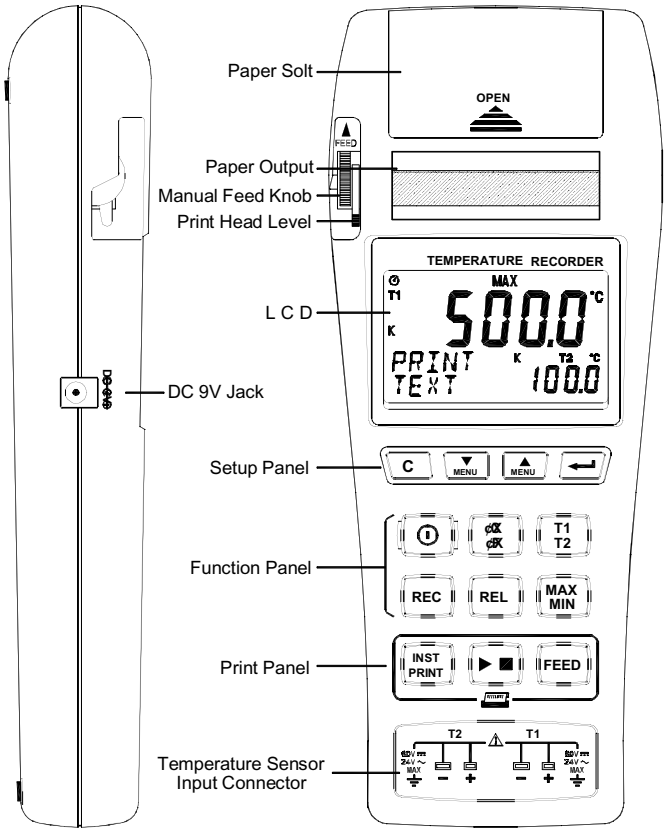
. FEATURE

1. Graphic Print Out.
2. Text Print Out.
3. The easy access menu buttons and text area in the LCD display provide a simple and intuitive hierarchical menu operation for system setup.
4. Built in system clock.
5. Photo coupler isolated RS-232 interface.
6. With Windows software.
7. 32,000 Records Data Logger.
8. T1 & T2 dual display with swapping display area.
9. MAX / MIN function.
10. REL function.

I. GENERAL SPECIFICATION

1. **Measurement Range:** TYPE K -200¡C ~ 1370¡C -328¡F ~ 2498¡F
   TYPE J -200¡C ~ 760¡C -328¡F ~ 1400¡F
2. **Accuracy:** -200¡C ~ 1370¡C –0.1% + 0.8¡C
   -328¡F ~ 2498¡F –0.1% + 1.6¡F
3. **Resolution:** 0.1¡C / 0.1¡F
4. **Sample Rate:** 2 times / second
5. **Input Protection:** 60V DC or 24Vrms AC
6. **Data Logger:** 32,000 Records
7. **Storage Condition:** -10¡C ~ 60¡C (14¡F ~ 140¡F)
   0 ~ 80% RH
8. **Operating Condition:** 0¡C ~ 50¡C (32¡F ~ 122¡F)
   0 ~ 80% RH
9. **Battery:** Size AA 1.5V x 6 (alkaline battery)
10. **AC Adapter:** DC 9V ~ 12V , 1A Min
11. **Thermal Paper:** 58mm width, 31_
12. **Dimension:** 242 x 98 x 42mm
13. **Weight:** 580g Approx.
14. **Accessory:** Tool Box
    Alkaline Battery Size AA 1.5V x 6
    Instruction Menu
    K Type Sensor x 2 (-50¡C ~ 200¡C)
    Thermal Paper x 2 (31_x 58mm)
    RS-232 Connection Cable
    Windows Software Disk

/. NAME AND FUNCTION



Setup Panel:

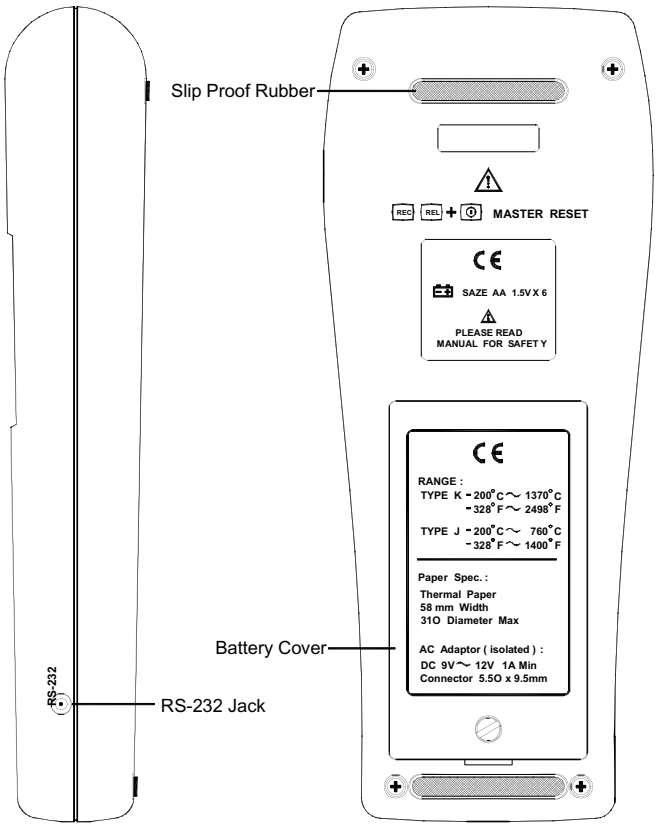
- C — Exit without saving
- MENU ▼ — Browse menu or number down
- MENU ▲ — Browse menu or number up
- ↵ — Enter

Print Panel:

- INST PRINT — Print present data
- ▶ ■ — Start / Stop printing
- FEED — Paper feed 2/3 inch

Function Panel:

- ⏻ — Power button
- ϕ℃ / ϕ℉ — ϕ℃ / ϕ℉ button
- T1 / T2 — T1 / T2 button
- REC — Record button
- REL — Relative readout button
- MAX / MIN — MAX / MIN button



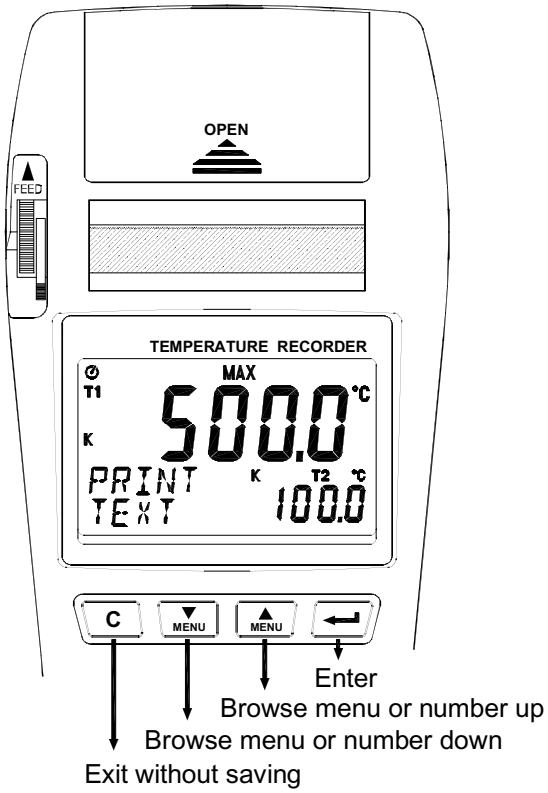
Function Panel:

	Auto power off
	Printing in process
REC	Recording in process
MAX	Maximum display mode
MIN	Minimum display mode
REL	Relative display mode
	Low battery
K J	Thermocouple Type
T1 T2	T1 / T2 Indication
°C °F	Temperature unit

'. OPERATION INSTRUCTIONS

5.1 Setup Menu

Press Menu select button to select menu



Enter

Browse menu or number up

Browse menu or number down

Exit without saving

Menu item

① CLOCK SETUP Set system clock

② TC TYPE Set Thermocouple Type

③ PRINT SETUP Set start/stop printing time and print mode

④ REC SETUP Set start/stop recording time and record interval

⑤ MEM ERASE Clear Datalogger memory

⑥ POWER SETUP Power management setup

⑦ ALARM SETUP Alarm limit setup

⑧ PRINT TEST Printer test printing

⑨ EXIT

① CLOCK SETUP → SET TIME — Set time

SET DATE — Set date

SET YEAR → SETUP OK — Set year

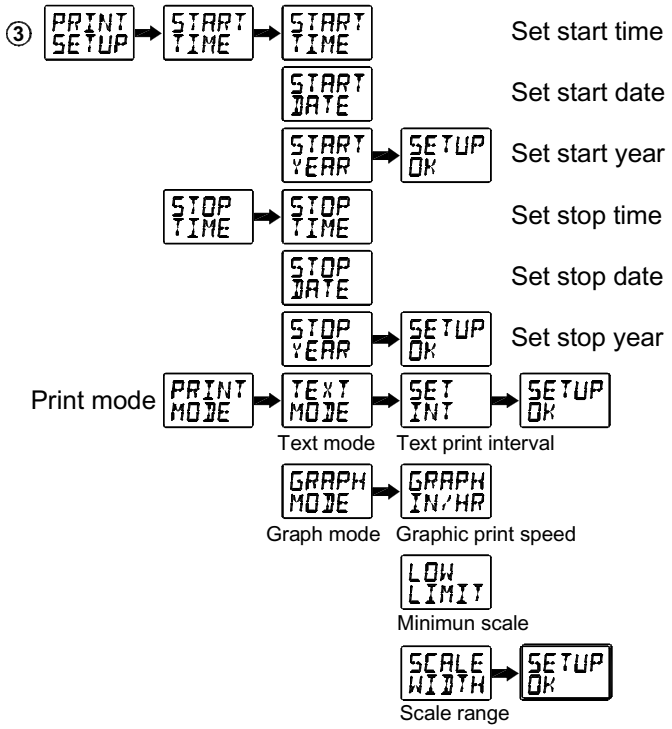
Set thermocouple type

② TC TYPE → K TYPE → SETUP OK — Select K Type

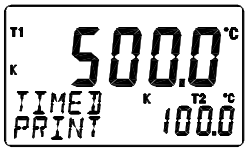
J TYPE → SETUP OK — Select J Type

Note: Thermocouple type must be the same as the type of sensor.

Set print start/stop time and print mode



Note: 1.Text print interval options :
2,5,10,15,30second,1,2,5,10,15,30,60minute.
2.Graph print speed options :
1,2,3,4,5,6,8,12,24inch/hour.
3.Graph print scale width options :
10,20,50,100,200,500,1000,2000
4.After setup is done and under normal mode LCD will show TIMED PRINT and auto power off will be disabled.

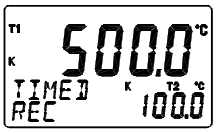


Datalogger start/stop time and Recording interval Setup

④ REC SETUP → START TIME → START TIME — Set start time
START DATE — Set start date
START YEAR → SETUP OK — Set start year
STOP TIME → STOP TIME — Set stop time
STOP DATE — Set stop date
STOP YEAR → SETUP OK — Set stop year
REC INT → SET INT → SETUP OK — Set record interval

ute

2.When REC setup is done and under normal mode LCD will show TIMED REC and auto power off will be disabled.



⑤ MEM ERASE → SURE ERASE → ERASE DONE — Erase m

⑥ POWER SETUP → 30MIN OFF → SETUP OK — 30 mi
auto p ve

Set power mode

CONT ON → SETUP OK — Powe h

7Alarm option Alarm active Upper limit Lowe t

○ ALARM SETUP → ALARM ON → ALARM UPPER → ALARM LOWER → SETUP OK

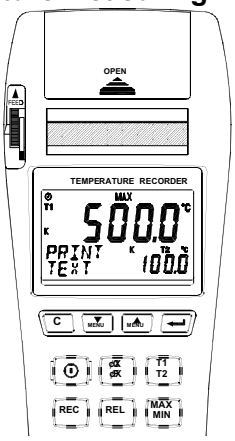
ALARM OFF → SETUP OK

Note: When Alarm is active and measurement is outside the limit there will be a beeping until measurement is inside the limit.

⑧ PRINT TEST — Printer diagnostic

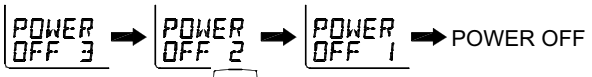
⑨ SYS INFO — Print all of the setup information

5.2 Temperature Measuring



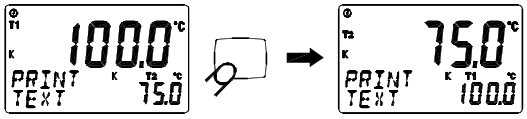
1.Power: Press power on.

Press and hold r 3 seconds to turn off the power, While power off, LCD will show the following symbol.

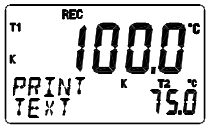


2.Select unit: Press to ect ¡C or ¡F scale and the selection will be kept in the memory after power off.

3.T1/T2 switch: Press to hange T1 T2 display window.

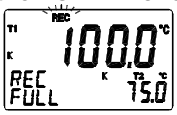


cording data: Press to start re ding, and the LCD will show REC symbol.



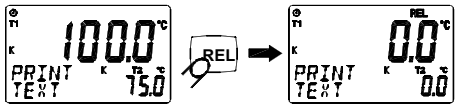
Press it again to stop recording.

If REC symbol blinks, it indicate the memory is full, and the LCD will show REC FULL .



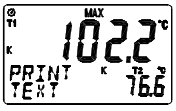
Recording interval please refer to [Page 9] setup recording interval.

5.**Relative operation:** Press , t REL neter will memorize the present reading and the difference between the new reading and the memorized data will be shown on the display.

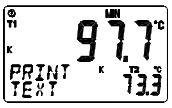


Press it again to exit the relative operation.

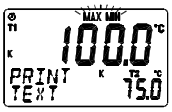
6.**MAX/MIN operation:** Press , a MAX MIN the LCD will display MAX symbol and maximum reading.



Press MAX MIN ain, and the LCD will display MIN symbol and minimum reading.



Press MAX MIN ain, MAX MIN symbols will blink together, and the reading is the present temperature.



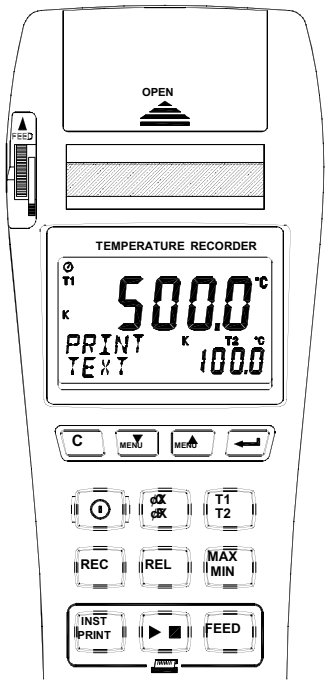
Meter will keep maximum and minimum value while you repeat these steps.

Press and hold MAX MIN 3 seconds to exit this

mode.

5.3 Printing

Use the printer control buttons to start the printing



1.Instant printing:

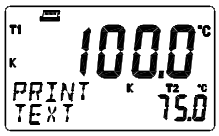
- Press [INST PRINT] one time to print out the date, time and the present temperature.
- Instant printing only can print text.
- If [INST PRINT] button is pressed during text printing process, there will be one batch of text inserted into the printing sequence which include date, time and temperature data.
- If [INST PRINT] button is pressed during graphic printing process, there will be a cross symbol to indicate the data on the chart and the related time is labeled by the side.

2.Start and stop printing:

Press ▶■ tart printing.

Press again to stop printing.

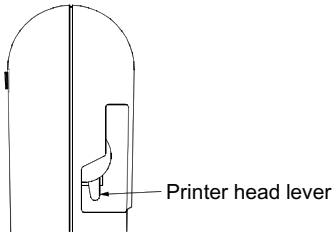
LCD will display bol while printing.



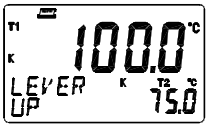
Please refer to [Page 8] about print setup.

3.Feed: Press FEED e time printer will feed 2/3 inch of paper out.

- Make sure to lower the printer head level before printing.

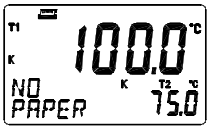


- When the printer head level is at the up position, and one start printing, LCD will display LEVER UP .



You have to push the lever down and print again.

- When paper is empty and the user start printing, LCD will display NO PAPER .



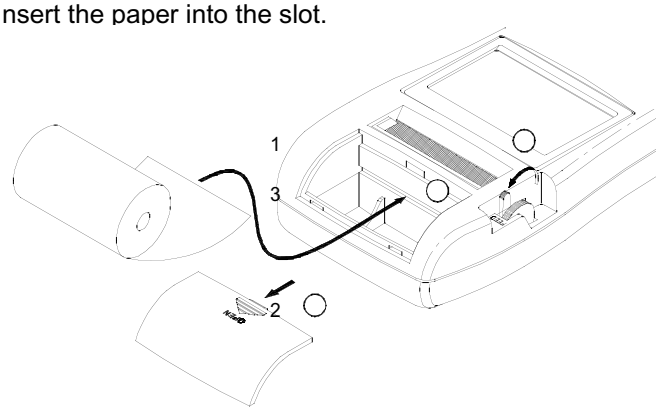
Please refer to [Page 14] about loading thermal paper.

5.4 Load Thermal Paper

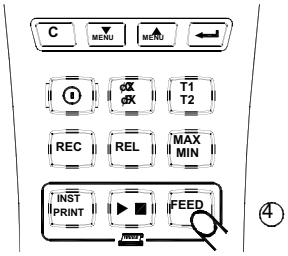
1.Pull up the printer head lever.

2.Remove the paper cabinet cover.

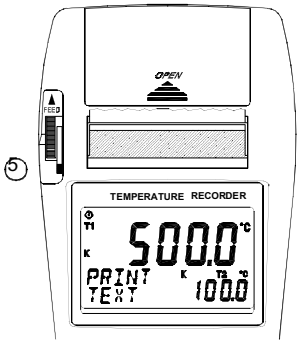
3.Insert the paper into the slot.



4.Press FEED uple of times to load the paper into printer.



5.When paper comes out of the front slot, push down the printer head lever.

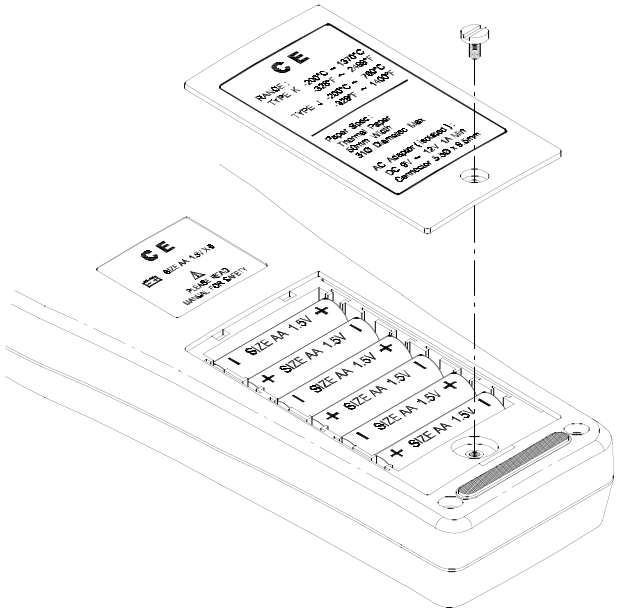


5.5 Replace Battery

1.Turn off power before replacing the battery.

2.Replace 6 size AA 1.5V Batteries.

If you want to operate for a long period, alkaline battery is recommended.



'I. ATTENTION

6.1 Cancel Timed Printing

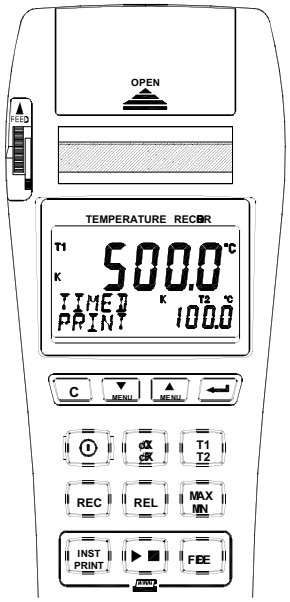
You can cancel timed printing by the following three methods:

1.Turn off the power.

2.Press [INST PRINT] e time.

3.Press [▶■] start printing.

Please refer to [Page 8] about resume timed printing.



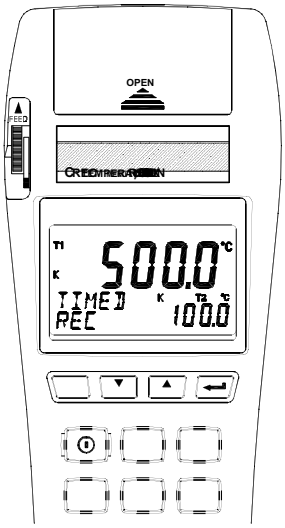
6.2 Cancel Timed Recording

You can cancel timed recording by the following two methods:

1.Turn off the power.

2.Press [REC] start recording.

Please refer to [Page 9] about resume timed recording.

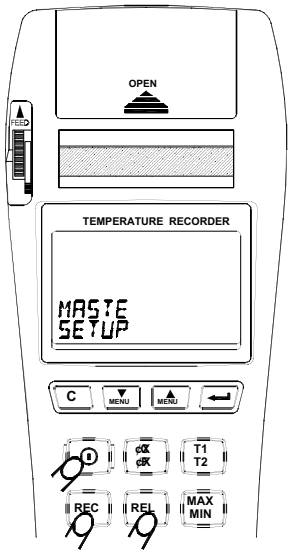


6.3 Master Reset

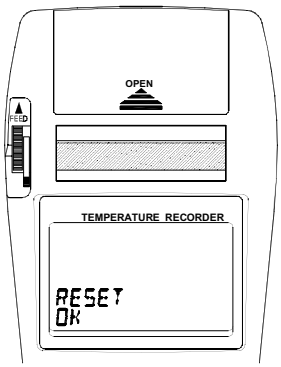
This is applied when the meter is under unknown condition, it will resume the meter to default setup.

1.Turn off the power.

2.press [ ] [ ] hold simultaneously, then press [ ] and LCD will display MASTE SETUP .



3.Release all button, LCD will display RESET OK .



'II. Software

7.1 Installation

System Required:

Windows 95 / Windows 98 / Windows ME
Windows NT 4.0.

Minimum Hardware Required:

PC with Pentium 90MHz or higher.

32 MB RAM.

4X CD-ROM Drive or higher.

Recommended resolution 800X600.

At least 5 MB byte hard disk space available to install TestLink.

Installation :

1.We recommend close all other application before installing TestLink.

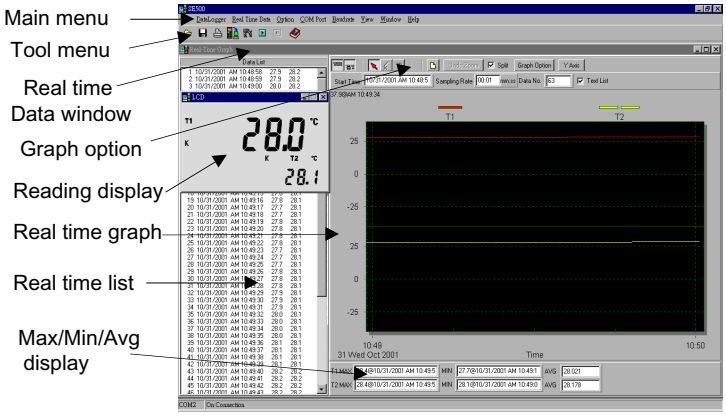
2.Insert the setup CD disc to CD-ROM drive and the installation program should start automatically.

3.If installation do not start automatically, choose the start button on the Taskbar and select Run.

4.Type E:\SETUP and choose OK, then it will copy SE500.exe (executable file) and help file to your hard disk (default is c:\program files\TestLink\SE500).

.2 Introduction

Main Screen



Main Screen

File : Open - Open files saved previously from the disk.

Save - Save the active window(when the caption bar is highlighted) data to the disk.

Print - Print the data of the active window (graph or list).

Printer Setup - Select printer.

Exit - Terminates TestLink program.

DataLogger : By opening the DataLogger Window, the user can load recorded data of meter to PC in this window.

Real Time Data : Run - Start recording real time data.

Stop - Stop recording real time data.

Option : Setup Temperature Recorder from PC.

COM port : Select PC connector port manually.

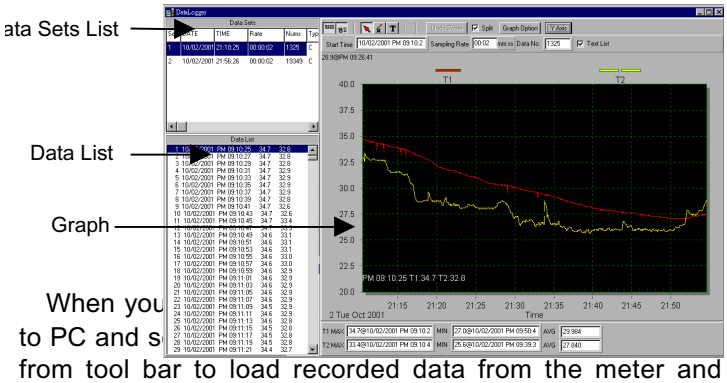
View : LCD - Open LCD simulation window.

Real Time Graph - Open Real-Time Graph window to graph the present data.

Window : Arrange windows

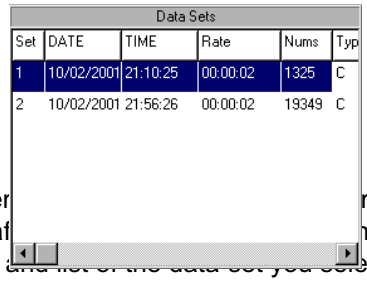
Help : On line help.

DataLogger



When you to PC and s from tool bar to load recorded data from the meter and there will be a progress indicator to show the loading progress. If error occurs, just click "DataLogger" again. After the data was loaded completely, the top left hand side will show how many data sets were loaded and detail information for each data set (start data, start time, recording rate and record numbers).

For examples, the figure below means there are two data sets, set 1 recorded 1325 records and set 2 recorded 19349 records.

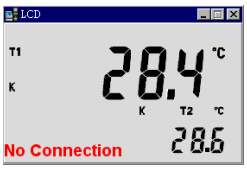


It will transfer right hand side and list data af her data set to view the graph ct.

Tutorial Quick Start

Recording real time data from PC.

1. Power on the Temperature Recorder first and connect it to a PC RS-232 serial port wit the cable,
2. Run the Software.
3. If the connection is successful the LCD simulation will



display the same value as the Temperature Recorder. If fail to connect the meter with PC, it will display "No Connection" on the LCD simulation window .

4. When the connection is successful, select Real Time Data | Run from main menu or click from tool bar, there will be a dialog for you to select record interval and record numbers and click start button to start recording.
5. When the recorded data numbers reach to the amount you set, it will stop recording, or click stop recording .

How to save the recorded real time data to a file ?

1. Click the window you want to save and the window will become active , then choose File | Save from main menu or click from the tool bar.
2. There will be a save dialog window for you to choose the file name and file type to save.
3. There are three types of file name you can choose, they are binary file(*.ghf), text file(*.txt) and EXCEL format file(*.csv). The *.ghf file use much fewer disk space to save the data than the other two file format, but it can only be used in TestLink SE500. Text file can be opened by TestLink SE500 and any other word processor program like word, notepad etc. EXCEL format file can be opened by TestLink SE500 and Microsoft EXCEL.

How to load the recorded data from the memory of
Temperature Recorder and save it to a file ?

1. Power on the Temperature Recorder.
2. Connect the Temperature Recorder to PC
3. Start SE500 program.
4. Choose Data Logger from main menu or click  from tool bar.
5. In reference to Data Logger, see [Page 20] about DataLogger.

For more operation instruction, please refer to the online help while executing SE500.